

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R042XA055NM

Site Name: Salty Bottomland

Precipitation or Climate Zone: 8-10 inches

Phase: \_\_\_\_\_

## PHYSIOGRAPHIC FEATURES

### Narrative:

This bottomland site usually occurs along the major streams such as the Rio Puerco and Rio Grande. Additional water is received from the adjacent uplands and occasionally floodwaters from the major streams. There may be a water table at varying depths which effects the vegetation. Slopes are from 1 to 5 percent. Elevations are from 5,500 feet above sea level to 4,200 feet.

### Land Form:

1. Drainageway

2. Floodplain

3.

### Aspect:

1. Not significant

2.

3.

|                            |                  |                  |
|----------------------------|------------------|------------------|
| Elevation (feet)           | Minimum<br>4,200 | Maximum<br>5,500 |
| Slope (percent)            | 1                | 15               |
| Water Table Depth (inches) | 30               | >72              |
| Flooding:                  | Minimum          | Maximum          |
| Frequency                  | Very brief       | Very Brief       |
| Duration                   | Rare             | Rare             |
| Ponding:                   | Minimum          | Maximum          |
| Depth (inches)             | N/A              |                  |
| Frequency                  | N/A              |                  |
| Duration                   | N/A              |                  |

### Runoff Class:

N/A

## CLIMATIC FEATURES

### Narrative:

This site has an arid climate with distinct seasonal temperature variations and large annual and diurnal temperature changes characteristic of a continental climate.

Precipitation averages 8 to 10 inches annually. Deviations of 4 inches or more from the average are quite common. Fifty percent of the moisture is received from July to November, which is the dominant growing season of native plants. Summer moisture is characterized by high intensity, short duration rainstorms. Winter precipitation averages less than one-half inch per month, usually in the form of rain. There are occasional snowstorms of short duration.

Temperatures vary from a mean monthly average of 77F in July to 34F in January, with the maximum being 104F and the minimum 10F below zero. The average last killing frost in the spring is April 15 and the average first killing frost in the fall is October 28. Frost-free season is an average of 185 days. Temperatures are conducive for native grass and forbs growth from March through November.

Spring winds of 15 to 40 miles per hour are common from February to June. These winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface. This results in structural damage to native plants, especially young seedlings.

|                                     |             |              |
|-------------------------------------|-------------|--------------|
|                                     | Minimum     | Maximum      |
| Frost-free period (days):           | <u>140</u>  | <u>165</u>   |
| Freeze-free period (days):          | <u>190</u>  | <u>213</u>   |
| Mean annual precipitation (inches): | <u>8.00</u> | <u>10.00</u> |

### Monthly moisture (inches) and temperature (<sup>0</sup>F) distribution:

|           | Precip. Min. | Precip. Max. | Temp. Min. | Temp. Max. |
|-----------|--------------|--------------|------------|------------|
| January   | 0.31         | 0.44         | 34.1       | 36.2       |
| February  | 0.31         | 0.46         | 39.3       | 42.0       |
| March     | 0.25         | 0.54         | 46.3       | 48.8       |
| April     | 0.33         | 0.52         | 53.3       | 56.5       |
| May       | 0.34         | 0.50         | 62.5       | 64.5       |
| June      | 0.46         | 0.70         | 70.6       | 74.3       |
| July      | 1.18         | 2.35         | 75.3       | 78.5       |
| August    | 1.64         | 2.47         | 73.0       | 75.9       |
| September | 1.00         | 1.56         | 66.5       | 68.6       |
| October   | 0.89         | 1.25         | 55.5       | 57.4       |
| November  | 0.36         | 0.54         | 43.7       | 45.4       |
| December  | 0.44         | 0.57         | 35.1       | 37.2       |

| Climate Stations: |        |          |             |       |                        |
|-------------------|--------|----------|-------------|-------|------------------------|
| Station ID        | NM0915 | Location | Bernardo    | From: | Period<br>1962 To 1990 |
|                   | _____  |          | _____       |       | : _____                |
| Station ID        | NM0983 | Location | Bingham     | From: | Period<br>1961 To 1990 |
|                   | _____  |          | _____       |       | : _____                |
| Station ID        | NM0234 | Location | Albuquerque | From: | Period<br>1961 To 1990 |
|                   | _____  |          | _____       |       | : _____                |
| Station ID        | NM5150 | Location | Los Lunas   | From: | Period<br>1961 To 1990 |
|                   | _____  |          | _____       |       | : _____                |
|                   |        |          |             |       | Period                 |

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from wetland or stream.

Wetland description:

| System | Subsystem | Class |
|--------|-----------|-------|
| N/A    |           |       |

If Riverine Wetland System enter Rosgen Stream Type:  
N/A

## REPRESENTATIVE SOIL FEATURES

### Narrative:

These deep, alluvial soils are well drained. Surface textures are clay loam, sandy clay loam and clay. There are a few with loam to very fine sandy loam textures. Substratums are mainly clay loam, silty clay loam, and clay. There are some areas of Tome soils which have loam to very fine sandy loam substratums. Permeability is slow (0.06 – 0.20 inches per hour), moisture holding capacity is 0.05 to 0.15 inches per inch. Reaction is 8.5 to 9.5. Salinity is 4 to 24 millimhos per centimeter. Some areas of Armijo are strongly saline and exchangeable sodium to 15 percent.

Parent Material Kind: Marine deposits

Parent Material Origin: Gypsum

### Surface Texture:

|                    |
|--------------------|
| 1. clay loam       |
| 2. sandy clay loam |
| 3. clay            |

### Surface Texture Modifier:

|             |
|-------------|
| 1. cl       |
| 2. scl      |
| 3. c,l,vfsl |

Subsurface Texture Group: Cl, scl, c

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 4-39%

Subsurface Fragments >=3" (%Volume): 2%

|   | Minimum         | Maximum         |
|---|-----------------|-----------------|
| Drainage Class:                         | Somewhat poorly | Well            |
| Permeability Class:                     | Impermeable     | Moderately slow |
| Depth (inches):                         | 0               | 60              |
| Electrical Conductivity (mmhos/cm):     | 0               | 16.00           |
| Sodium Absorption Ratio:                | 8.00            | 30.00           |
| Soil Reaction (1:1 Water):              | 7.4             | 9.6             |
| Soil Reaction (0.1M CaCl2):             | No data         |                 |
| Available Water Capacity (inches):      | 2               | 7               |
| Calcium Carbonate Equivalent (percent): | No data         |                 |

## PLANT COMMUNITIES

Ecological Dynamics of the Site:

Future development.

Plant Communities and Transitional Pathways (diagram)

Future development.

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:

The aspect and biomass of vegetation on this site is a shrub- grass mixture characterized by fourwing saltbrush and greasewood. Tall, mid grass, and short grasses are present. Mid and short grasses are dominant. Annual and perennial forbs are always present in varying amounts. When the plant community deteriorates, there is a definite increase in amounts of shrubs and short grasses.

The potential plant community produces approximately 2,000 pounds per acre air dry during years of favorable growing conditions and about 1,000 pounds during unfavorable years. The total average annual production is approximately 1,500 pounds.

Ground Cover (Average Percent of Surface Area).

|                               |    |
|-------------------------------|----|
| Grasses & Forbs               | 35 |
| Trees and shrubs - canopy     | 20 |
| Bare ground                   | 45 |
| Surface cobble and stone      |    |
| Litter (percent)              |    |
| Litter (average depth in cm.) |    |

Plant Community Annual Production (by plant type):

| Plant Type         | Annual Production (lbs/ac) |      |      |
|--------------------|----------------------------|------|------|
|                    | Low                        | RV   | High |
| Grass/Grasslike    | 650                        | 975  | 1300 |
| Forb               | 100                        | 150  | 200  |
| Tree/Shrub/Vine    | 250                        | 375  | 500  |
| Lichen             |                            |      |      |
| Moss               |                            |      |      |
| Microbiotic Crusts |                            |      |      |
| Totals             | 1000                       | 1500 | 2000 |

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

| Group Number | Scientific Plant Symbol | Common Name      | Species Annual Production | Group Annual Production |
|--------------|-------------------------|------------------|---------------------------|-------------------------|
| 1            | SPWR2                   | Giant sacaton    | 225-300                   | 225-300                 |
| 2            | SPAI                    | Alkali sacaton   | 450-600                   | 450-600                 |
| 3            | PAOB                    | Vine mesquite    | 75-150                    | 75-150                  |
| 4            | DISP                    | Inland saltgrass | 225-300                   | 225-300                 |
| 5            | PLMU3                   | Tobosa           | 75-150                    | 75-150                  |
| 6            | SCBR2                   | Burrograss       | 30-75                     | 30-75                   |
| 7            | MURI                    | Mat muhly        | 30-75                     | 30-75                   |
| 8            | CAREX                   | Sedges           | 30-75                     | 30-75                   |
|              |                         |                  |                           |                         |
|              |                         |                  |                           |                         |

Plant Type - Tree/Shrub/Vine

| Group Number | Scientific Plant Symbol | Common Name        | Species Annual Production | Group Annual Production |
|--------------|-------------------------|--------------------|---------------------------|-------------------------|
| 9            | ATCA2                   | Fourwing Saltbush  | 150-300                   | 150-300                 |
| 10           | ATCO                    | Shadescale         | 75-150                    | 75-150                  |
| 11           | SAVE4                   | Black Greasewood   | 75-225                    | 75-225                  |
| 12           | ERNAN5                  | Rubber rabbitbrush | 45-75                     | 45-75                   |
|              |                         |                    |                           |                         |

Plant Type – Forb

| Group Number | Scientific Plant Symbol | Common Name             | Species Annual Production | Group Annual Production |
|--------------|-------------------------|-------------------------|---------------------------|-------------------------|
| 13           | ALOC2                   | Iodinebush (picklyweed) | 30-75                     | 30-75                   |
| 14           | SAKA                    | Tumbleweed              | 45-75                     | 45-75                   |
| 15           | AMPS                    | Western ragweed         | 45-75                     | 45-75                   |
| 16           | KOSC                    | Kochia                  | 45-75                     | 45-75                   |
|              |                         |                         |                           |                         |

Plant Type - Lichen

| Group Number | Scientific Plant Symbol | Common Name | Species Annual Production | Group Annual Production |
|--------------|-------------------------|-------------|---------------------------|-------------------------|
|              |                         |             |                           |                         |

Plant Type - Moss

| Group Number | Scientific Plant Symbol | Common Name | Species Annual Production | Group Annual Production |
|--------------|-------------------------|-------------|---------------------------|-------------------------|
|              |                         |             |                           |                         |

Plant Type - Microbiotic Crusts

| Group Number | Scientific Plant Symbol | Common Name | Species Annual Production | Group Annual Production |
|--------------|-------------------------|-------------|---------------------------|-------------------------|
|              |                         |             |                           |                         |

Other grasses that could appear on this site would include: Blue grama, Foxtail, Sand dropseed, Spike dropseed, Giant dropseed, New Mexico feathergrass

Other woody plants include: none other mentioned.

Other forbs include: Tansymustard weed

Plant Growth Curves

Growth Curve ID NM - 2241

Growth Curve Name: HCPC

Growth Curve Description: SD-1 Salty Bottomland HCPC Warm Season Plant Community

| Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
|      |      | 3     | 5     | 10  | 10   | 25   | 30   | 12    | 5    |      |      |

Plant Growth Curves

Growth Curve ID NM - 2242

Growth Curve Name: HCPC

Growth Curve Description: SD-1 Salty Bottomland HCPC Cool Season Plant Community

| Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
|      |      | 15    | 20    | 20  | 2    | 5    | 10   | 15    | 13   |      |      |

## ECOLOGICAL SITE INTERPRETATIONS

### Animal Community:

Habitat for wildlife: This ecological site provides habitats which support a resident animal community that is characterized by coyote, striped skunk, black-tailed jackrabbit, desert cottontail, banner-tailed kangaroo rat, tawny-bellied cotton rat, kill deer, roadrunner, loggerhead shrike, fence lizard, New Mexico whiptail, and Sonora gopher snake.

When woody vegetation is present, these site are breeding areas for mockingbird, mourning dove, roadrunner, and redwing blackbird.

### Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

#### Hydrologic Interpretations

| Soil Series         | Hydrologic Group |
|---------------------|------------------|
| Most soils in site. | D                |
|                     |                  |

### Recreational Uses:

This site has limited potential for recreational use.

### Wood Products:

This site has no potential for wood products.

### Other Products:

Grazing: This site is well suited for year long grazing use by cattle, sheep, horses, burros, antelope and deer.

### Other Information:

#### Guide to Suggested Initial Stocking Rate Acres per Animal Unit Year

| Similarity Index | Ac/AUY                  |
|------------------|-------------------------|
| 100 - 76         | 25 – 20 (2.1 - 1.6 AUM) |
| 75 – 51          | 30 – 25 (2.5 – 2.1 AUM) |
| 50 – 26          | 42 – 30 (3.5 – 2.5 AUM) |
| 25 – 0           | 64 – 42 (5.3- 3.5 AUM)  |

Plant Preference by Animal Kind:

|                   | Code | Species Preference | Code |
|-------------------|------|--------------------|------|
| Stems             | S    | None Selected      | N/S  |
| Leaves            | L    | Preferred          | P    |
| Flowers           | F    | Desirable          | D    |
| Fruit/Seeds       | F/S  | Undesirable        | U    |
| Entire Plant      | EP   | Not Consumed       | NC   |
| Underground Parts | UP   | Emergency          | E    |
|                   |      | Toxic              | T    |

Animal Kind: Livestock

Animal Type: Cattle

| Common Name         | Scientific Name                  | Plant Part | Forage Preferences |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|----------------------------------|------------|--------------------|---|---|---|---|---|---|---|---|---|---|---|
|                     |                                  |            | J                  | F | M | A | M | J | J | A | S | O | N | D |
| Alkali sacaton      | <i>Sporobolus airoides</i>       | EP         | P                  | P | P | P | P | P | P | P | P | P | P | P |
| Vine mesquite       | <i>Panicum obtusum</i>           | EP         | P                  | P | P | P | P | P | P | P | P | P | P | P |
| Inland saltgrass    | <i>Distichlis spicata</i>        | EP         | P                  | P | P | P | P | P | P | P | P | P | P | P |
| Blue grama          | <i>Bouteloua gracilis</i>        | EP         | P                  | P | P | P | P | P | P | P | P | P | P | P |
| Dropseed spp.       | <i>Sporobolus spp.</i>           | EP         | P                  | P | P | P | P | P | P | P | P | P | P | P |
| Giant sacaton       | <i>Sporobolus wrightii</i>       | EP         | D                  | D | D | D | D | D | D | D | D | D | D | D |
| Fourwing Saltbush   | <i>Atriplex canescens</i>        | EP         | D                  | D | D | D | D | D | D | D | D | D | D | D |
| Tobosa              | <i>Pleuraphis mutica</i>         | EP         | D                  | D | D | D | D | D | D | D | D | D | D | D |
| Sedges              | <i>CAREX spp.</i>                | EP         | D                  | D | D | D | D | D | D | D | D | D | D | D |
| Shadscale           | <i>Atriplex confertifolia</i>    | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Greasewood          | <i>Sarcobatus vermiculatus</i>   | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Burrograss          | <i>Scleropogon brevifolius</i>   | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Mat muhly           | <i>Muhlenbergia richardsonis</i> | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Tumbleweed          | <i>Salsola kali</i>              | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Foxtail barley      | <i>Hordeum jubatum</i>           | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
| Feather fingergrass | <i>Chloris virgata</i>           | EP         | U                  | U | U | U | U | U | U | U | U | U | U | U |
|                     |                                  |            |                    |   |   |   |   |   |   |   |   |   |   |   |

SUPPORTING INFORMATION

Associated sites:

| Site Name | Site ID | Site Narrative |
|-----------|---------|----------------|
|           |         |                |

Similar sites:

| Site Name | Site ID | Site Narrative |
|-----------|---------|----------------|
|           |         |                |

Inventory Data References (narrative):

|  |
|--|
|  |
|--|

Inventory Data References:

| Data Source | # of Records | Sample Period | State | County |
|-------------|--------------|---------------|-------|--------|
|             |              |               |       |        |

State Correlation:

This site has been correlated with the following sites: \_\_\_\_\_

Type Locality:

State: \_\_\_\_\_

County: \_\_\_\_\_

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes     No

General Legal Description: \_\_\_\_\_

Relationship to Other Established Classifications:

|  |
|--|
|  |
|--|

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Valencia, Socorro and Bernalillo.

Characteristic Soils Are:

|                                      |  |
|--------------------------------------|--|
| Tome clay loam, very fine sandy loam |  |
| Armijo sandy clay loam, saline       |  |
| Armijo clay                          |  |
|                                      |  |
|                                      |  |

Other Soils included are:

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |

Site Description Approval:

| <u>Author</u> | <u>Date</u> | <u>Approval</u> | <u>Date</u> |
|---------------|-------------|-----------------|-------------|
| Don Sylvester | 07/12/1979  | Don Sylvester   | 07/12/1979  |

Site Description Revision:

| <u>Author</u>    | <u>Date</u> | <u>Approval</u> | <u>Date</u> |
|------------------|-------------|-----------------|-------------|
| Santiago Misquez | 04/12/02    | George Chavez   | 02/14/03    |