

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

Ecological Site Description

Site name: ARID SHALLOW HILLS
 Site number: R-271ZY011PR
 Major Land Resource Area: 271 Semiarid Mountains and Valleys
 Interstate correlation: NONE

Physiographic features:

This site occurs on steep mountain summits, side slopes and foot slopes in the semiarid region. Slopes range from moderately steep to very steep; near vertical slopes occur in the northernmost part of the area. It is formed in residuum and colluvium that weathered from volcanic and limestone bedrock.

Climatic features

Frost-free period: 365 DAYS
 Freeze-free period: 365 DAYS
 Mean annual precipitation: 33 INCHES
 Mean annual air temperature: 79F°
 Mean annual soil temperature:
 Monthly moisture and temperature distribution:

| | Mean Precipitation (inches) | Percent Precipitation (%) | Mean Temperature (°F) |
|--------------------|--|--|--------------------------------------|
| January | .78 | 2.36 | 76 |
| February | .72 | 2.18 | 76 |
| March | .86 | 2.60 | 78 |
| April | 1.92 | 5.81 | 78 |
| May | 2.92 | 8.84 | 80 |
| June | 3.13 | 9.48 | 81 |
| July | 2.91 | 8.81 | 82 |
| August | 4.45 | 13.48 | 82 |
| September | 5.26 | 15.93 | 81 |
| October | 5.63 | 17.06 | 81 |
| November | 3.18 | 9.63 | 79 |
| December | 1.20 | 3.33 | 77 |
| Mean annual | 33 | | 79°F |

Other climatic features: A rainy season prevails from July to November and a pronounced dry season occurs during the remainder of the year. Hurricanes are most

likely to occur from August to November, and are characterized by strong winds and torrential rains.

Associated water features: Some intermittent creeks.

Elevation Aspect: 500 to 2000 ft.

Percent Slope: 5 to 60

Major Soil Taxonomic Units correlated to this site include:

Callabo, CoD, CoE, CoF2
 Descalabrado, DeC, DeD, DeF, DgF, DgF2, DeE, DrF
 Guanabano, GoF
 Guayama, GuD, GuF, GyC2
 Jacana, JaD, JaD2
 Juana Diaz, JzD, JzE
 Vieques, VmC, VmC2
 Volcanic Rockland, Vo

Plant communities:

Plant community is dominated by coarse perennial naturalized warm season grasses such as Guinea grass (*Urochloa maxima*), Angleton blue grass (*Dichanthium annulatum*) and Hurricane grass (*Bothriochloa pertusa*), that constitute about 96% of the vegetative composition, forbs 2%, and shrubs such as Leucaena (*Leucaena leucocephala*) and Giant milkweed (*Calotropis* sp.) 4%.

Major plant species composition:

Predominant plant community: Introduced grasses are adapted to the site. These highly palatable species are Guinea and Pajon. They exist in varying levels of dominance due to past or existing grazing pressure.

Grasses and Grasslikes

| Scientific Symbol | Common Name | Group | Pounds per Acre | Percent by Weight | Percent Allowed For group |
|-------------------|-----------------|-------|-----------------|-------------------|---------------------------|
| BOPE | Hurricane grass | 1 | | 5 | |
| DIAN | Pajon | 1 | | 8 | |
| URMA | Guinea grass | 1 | | 81 | |

Forbs

| Scientific Symbol | Common Name | Group | Pounds per Acre | Percent by Weight | Percent Allowed For group |
|-------------------|-------------|-------|-----------------|-------------------|---------------------------|
|-------------------|-------------|-------|-----------------|-------------------|---------------------------|

| | | | | | |
|------|-----------------|---|--|---|--|
| CODO | Cock's spur | 3 | | 1 | |
| POOL | Purslane | 3 | | 1 | |
| SIAG | Sensitive plant | 3 | | 1 | |

Shrubs and Trees

| Scientific Symbol | Common Name | Group | Pounds per Acre | Percent by Weight | Percent Allowed For group |
|-------------------|-------------|-------|-----------------|-------------------|---------------------------|
| CALO | Calotropis | 3 | | 1 | |
| LELE | Leucaena | 2 | | 2 | |

Ground Cover and Structure

| | Height Above the Ground | | | | | | | | | | | |
|------------------------|-------------------------|----------------|----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-------------------|----------------|
| | Not applicable | | 6 to 12 inches | | 12 to 24 inches | | 24 to 60 inches | | 60 to 80 inches | | 180 to 240 inches | |
| | % Ground cover | % Canopy cover | % Ground cover | % Canopy cover | % Ground cover | % Canopy cover | % Ground cover | % Canopy cover | % Ground cover | % Canopy cover | % Ground cover | % Canopy cover |
| Trees | | | | | | | | | | | | |
| Shrubs | | | | | | | 1 | 5 | | | | |
| Grasses and grasslikes | | | | | | | 15 | 95 | | | | |
| Forbs | | | 1 | 10 | | | | | | | | |
| Cryptogams | | | | | | | | | | | | |
| Coarse fragments | | | | | | | | | | | | |
| Bare ground | | | | | | | | | | | | |
| Litter | | | | | | | | | | | | |

Transition Pathways: The native climax grass species are generally replaced by such introduced species as hurricane grass and Angleton grass. These grasses generally dominate the site when subject to severe overgrazing. Guinea and Buffel grass may replace native species when properly managed and can provide a high level of forage yield. However if the species are severely overgrazed the site is again subject to invasion by hurricane grass and Angleton grass. If abusive grazing continues Angleton is replaced by a pure stand of hurricane grass followed by an invasion of twisted grass.

Total annual production: 8,750 lb/ac normal year

Plant Growth Curves:

Growth curve number: PR001

Growth curve name: PR PLANT GROWTH CURVE

Growth curve description: Native and Naturalized Grasslands.

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6 | 5 | 4 | 7 | 12 | 10 | 9 | 10 | 11 | 10 | 9 | 7 |

Animal Community:

This site is important several wildlife species. Major species using the site include:

Adelaide's warbler
Barn swallow
Buteo
Caribbean elaenia
Cattle egret
Helmeted guinea fowl
Iguana iguana
Lesser antillian pewee
Lizards
Mangose
Mangrove cuckoo
Mourning dove
Northen mockingbird
Other rodents
Ovenbird
Pearly eyed thrasher
Peregrine Falco
Prairie warbler
Puerto Rican flycatcher
Puerto Rican nighthjar
Sparrow hawk
Turkey vulture
Yellow faced grassquit

Associated sites: LIMESTONE COASTAL HILL**Similar sites:**

Plant communities, production, and vigor of this site is similar enough to other sites in the region to cause a problem or concern mainly during the dry season.

Site documentation:

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Revised: 05/2002 E. Más, J. Lugo, S. Ríos

Supporting data for site development: Supporting data include clipping studies, and historical writing of the area. More documentation and study are needed to fully understand this site and the transitions that occur.

Sampling techniques:

SCS-Range 417

Type locality: Santa Catalina Ward, Coamo, PR

Field Offices: Juana Díaz, Ponce, San Germán

References:

USDA, NRCS. 1997. National Range and Pasture Handbook.

USDA, SCS. Lajas Soil Survey, Ponce Soil Survey, Humacao Soil Survey

Site Approval:

This site has been reviewed and approved for use:

USDA NRCS Resource Conservationist

Date