

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

Ecological Site Description

Site name: SOUTHERN SWALES  
Site number: R-273ZY037PR  
Major Land Resource Area: 273 Semiarid Coastal Plains  
Interstate correlation: NONE

**Physiographic features:** Elevation of this site ranges from sea level to 400m. Most of the area is nearly level to gently sloping. Elevation increases gradually from the beaches on the Caribbean Sea to the foothills of the semiarid mountains to the north. Limestone ridges are similar to those in the Humid Coastal Plains but they lack the striking karst features. All drainage is superficial and flows in a southerly direction.

**Climatic features**

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

	<b>Mean Precipitation (inches)</b>	<b>Percent Precipitation (%)</b>	<b>Mean Temperature (°F)</b>
January	.78	2.36	76
February	.72	2.18	76
March	.86	2.60	77
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
<b>Mean annual</b>	<b>33</b>		<b>79°F</b>

**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 August through November, and are characterized by strong winds and torrential rains. Surface water is scarce because of limited rainfall and high evaporation rates. Low rainfall and steep topography of the adjacent semiarid mountains to the north provide little additional surface water.

**Associated water features:** Streams and rivers generally are intermittent. In places artesian pressure brings saline and sodic ground water to the surface.

**Elevation Aspect:** 5 to 25 ft.

**Percent Slopes:** 0 to 2

**Soils:** Soils of this site are deep, somewhat to poorly drained, and moderately to fine textured sediments derived from volcanic to limestone rocks. They occur on nearly level to slight concave terrain on flood plains, alluvial fans, and in depressions in the semi arid southern coastal plains. They are calcareous, slowly permeable and with a high available water capacity.

Major Soil Taxonomic Units correlated to this site include:

Cintrona, Cr  
 Constancia, Ct  
 Machuelo, Ma

**Plant communities:**

This site consists primarily of tufted perennial grasses and grasslikes that are tolerant to high water tables and saline conditions. The site exists in a narrow belt fringing the ocean and slightly above sea level in the southern coastal plain. Grasses constitute about 94% of the composition, forbs 5% and trees about 1%.

**Major plant species composition**

**GRASSES AND GRASSLIKES**

Scientific Symbol	Common Name	Group	Pounds per Acre	Percent by Weight	Percent Allowed For Group
BRMU5	Malojillo	1			
BRSU	Alexander grass	1			
CHIN4	Mexican bluegrass	1			
CHRA	Chloris	1			
CYDA	Bermuda grass	1			
CYLA2	Galingale sedge	1			
ELIN3	Goosegrass	1			
ERCI2	Lovegrass	1			

PADI6	Knotgrass	1			
PARE9	Sprawling panicum	1			
SEGE	Knot bristlegrass	1			
SPIN4	Whorled dropsees	1			
SPPY2	Pyramid dropseed	1			
SPVI3	Beachgrass	1			
TYDO	Southern cattail	1			
URMA	Guinea grass				

### FORBS

Scientific Symbol	Common Name	Group	Pounds per Acre	Percent by Weight	Percent Allowed For group
BAMA5	Saltwood	2			
COSC	Pega pollo	2			
DOVI	Dogwood	2			
HECU3	Heliotrope	2			
IPPE	Bay hops	2			
KAPI	Life plant	2			
OPBO	Tuna catus	2			
PAAC3	Horsebean	2			
PHVE	Saltweed	2			
PIUN	Catcalw blackbead	2			
POQU2	Chickweed	2			
RADI	Chritmas tree	2			
RUTU	Many roots	2			
SEPO2	Sea purslane	2			
SIAG	Horseweed	2			

### Shrubs and Trees

Scientific Symbol	Common Name	Group	Pounds per Acre	Percent by Weight	Percent Allowed For group
COER2	Button mangrove	3			

## 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
											1	2
Trees												
Shrubs												
Grasses and grasslikes									10	70		
Forbs					1	5						
Cryptogams												
Coarse fragments												
Bare ground												
Litter												

### Transition Pathways:

The native climax grass species are generally replaced by such introduced species as hurricane grass, or annual Chloris. If abusive grazing continues to the exclusion of grass species, salt tolerant forbs increase and dominate the site.

**Total annual production:** 2000 lbs/acre

### Plant Growth Curves:

**Growth curve number:**

**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 for several wildlife species. Major species using the site include:

- Black necked stilt
- Black tern
- Blue winged teal
- Clapper rail
- Common Noorhen
- Common tern
- Hudsonian curlew

Lesser yellowlegs  
Mangrove cuckoo  
Northern harrier  
Osprey  
Peregrine falcon  
Puertorican woodpecker  
Roseate tern  
Semi-palmated sandpiper  
Sora  
Spotted sandpiper  
Western sandpiper  
White crowned pigeon

**Associated sites:**

**Similar sites**

Plant communities, production, and vigor of this site is not similar enough to other sites in the region to cause a problem or concern.

**Site documentation**

**Author:** M. Montes, E. Más, C. Santiago

**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:** Com. Manzanilla, Ponce, PR; Capitanejo, Juana Díaz, PR

**Field Offices:** Juana Díaz, Guayama, Ponce

**References:**

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

**USDA, SCS.** Soil Survey's

**Site Approval:**

This site has been reviewed and approved for use:

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USDA NRCS Resource Conservationist

Date