

FACT SHEET

Saltflat Vegetation for Soil and Wildlife Conservation Associated with Coastal Tidal Flats

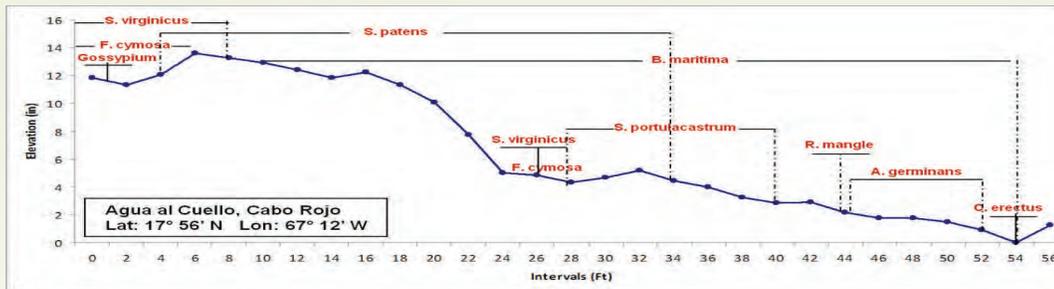


Batis maritima

Saline coastal tidal flats rely on the borders of saline-water bodies whose water level fluctuates, and their salinity range is influenced by several factors such as frequency of inundation, rainfall and vegetation, among others. Tidal flats as well as mangrove swamps form an important interface between terrestrial and marine habitats. Saline tidal flat thriving plants could provide protection against soil erosion, shelter, or fodder to certain wildlife species. These plants possess physiological and/or morphological adaptations such as; salt secretory glands to excrete salts as in the case of the genus *Spartina*; large pores or air spaces in roots and stems to transfer oxygen from the aerial parts to the roots; waxes; and specialized roots as the pneumatophores present in the black mangrove.

Threats to coastal marine ecosystems from land-based pollutants may include: sediments; nutrients; chemical substances and pathogens that may reduce light penetration; increased turbidity; reduced photosynthetic capacity; induced phytoplankton blooms and eutrophication; reduced coral cover and diversity and promote shifts in coral reef diversity; death of underlying coral tissue and increased vulnerability to diseases.

Coastal conservation buffers are natural filters designed to reduce runoff and improve water quality and marine biodiversity. The Caribbean Area Plant Materials Program in partnership with the University of Puerto Rico established demonstration trials to validate the applicability of saltflat vegetation as conservation buffers. Seven species identified as dominant in four sites have been propagated, and demonstration sites have been established in two sites. Ground and foliar cover of the dominant salt flat species, as well as their ability to trap and bind sediments, makes them perfect for use as vegetative buffers in areas of agricultural activity near the coastal zone. This work has application to areas with coastal development and to agricultural lands close to coastal areas in Puerto Rico & the US Virgin Islands.



Observation site 1. Agua al Cuello-Combate Beach, Cabo Rojo, Puerto Rico

Detres, Y. et.al. 2010. Salt Flat Vegetation for Coastal Conservation Buffers in Puerto Rico

Caribbean Area Saltflat Vegetation Dominant Species

Species	Common Names (English/Spanish)	Ground Cover %	Foliar Cover %
<i>Batis maritima</i> L.	Saltwort/Turtlewort or Barilla	13-32	75-98
<i>Paspalidium geminatum</i> (Forssk.) Stapf	Egyptian panicum/Water panicum or Yerba de pantano	26	85
<i>Paspalum vaginatum</i> Swartz	Seashore paspalum or Corredora	17	83-88
<i>Salicornia bigelovii</i> Torr.	Dwarf saltwort or Salicornia	15	83
<i>Sesuvium portulacastrum</i> (L.) L.	Shoreline sea purslane or Verdolaga rosada	6-45	60-98
<i>Spartina patens</i> (Aiton) Muhl.	Saltmeadow cordgrass or Spartina	36-64	88-92
<i>Sporobolus virginicus</i> (L.) Kunth	Seashore rush grass or Matojo de playa	11-29	85-90

