

Soil Science Division

Soil Survey Region 3

Mayagüez, Puerto Rico, Soil Survey Office

Ecological Site Descriptions for Puerto Rico and the U.S. Virgin Islands

Purpose

Ecological site descriptions (ESDs) correlate the NRCS soil survey data with vegetation communities, including their productivity and management. ESDs for Puerto Rico and the U.S. Virgin Islands will facilitate ecosystem-based management strategies for natural resource conservation. The strategies aim to maintain the sustainability of farm and forest productivity on the islands as well as the surrounding fisheries.



Pasture and crop fields in the Lajas Valley, which is the “bread basket” of Puerto Rico.

Background Information

The Soil Science Division has established an agreement with the U.S. Forest Service International Institute of Tropical Forestry. The Mayagüez Soil Survey Office and the Mid-Atlantic and Caribbean Area Regional Office in Raleigh, North Carolina, are collaborating with the institute to develop ESDs for Puerto Rico and the U.S. Virgin Islands.



This agreement, in the fashion of OneUSDA, brings together the international authority on tropical soil science and the international leader in tropical forest management. NRCS has sole authority to develop ESDs that are tied directly to the soil survey. Together, NRCS and the U.S. Forest Service will build OneUSDA guidelines for ecosystem-based management strategies of private agricultural and forested lands across the islands.

Local sources of food and fiber are especially important for island communities, and ecosystem-based management strategies, like those delivered through ESDs, will help maintain agricultural and forest productivity while conserving and protecting soil and water quality. These strategies for holding soil on the land are critical for maintaining the viability of local fisheries.



Left image—Mangrove roots, sea grass, coral, and a school of small fish in the waters offshore of the Lajas Valley. Right image—Flame trees bordering a field of pineapples.

Key Outcomes and Products

Collaborative development of provisional ESDs is the first critical step towards USDA's ability to provide crucial information and assistance, including:

- Site-specific recommendations for establishment of vegetation communities that are resilient to hurricanes and other disturbances.
- Site-specific recommendations for management of vegetation communities to protect soil resources and water quality.
- Site-specific recommendations for crop, pasture, and forest productivity.
- Increased access to NRCS financial assistance programs for conservation practices, some of which require ESDs for program eligibility.
- Coordinated technical recommendations for vegetation management for all customers of OneUSDA across the Caribbean area.

Future Goals and Conclusions

The current agreement is for collaboration on the development of provisional ESDs, which is the initial stage in the process of ecological site development. This first step in the OneUSDA collaboration will develop a working framework of ESDs.

Future efforts will test and refine this provisional working framework. Eventually, the ESDs and corresponding management guidelines will be published as part of the official USDA-NRCS soil survey on Web Soil Survey.

