



United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

Watershed Fact Sheet

Jobos Bay Watershed, Puerto Rico: 2007-2009

A NRCS Tropical Special Emphasis Watershed.



CEAP Assessment

Objectives

Determine environmental effects that agricultural conservation practices may have on coastal waters and associated habitats in a tropical ecosystem, and ultimately, to coral reefs.

Initiated by the Coral Reef Task Force for coral reef conservation.

Watershed Description

South-central coast of Puerto Rico,
Semi-arid Coastal Plain

Size: 10,210 ha (25,219 acres)

Municipalities - Guayama and Salinas

Total population about 73,000 persons

Predominant land uses are agriculture, including crops such as plantains, bananas, papayas and hayland, and animal operations with poultry and some beef cattle.

Semi-arid regional climate mean annual rainfall 1,129 mm (44 inches) Watershed monthly average (1960-90),
Wettest: October mean rainfall 229 mm (9 inches)
Driest: March mean rainfall 25 mm (1 inch)

Temperature shows little seasonal fluctuation
Mean 26.6 °C, max. 27.4 °C, min. 24.8 °C

Resource Concerns

Water Conservation; Water Quality; Soil Erosion;
Soil Quality; Riparian Ecosystems; Plant Productivity;
Fish and Wildlife Habitat; Ecosystem Services



Figure 1. View of coral reef boundary from Cayos Caribes, Jobos Bay NERR



Figure 2. Center pivot irrigation for corn production, Salinas, Puerto Rico



Figure 3. Interagency team discusses conservation planning and irrigation management with farmer cooperators, Salinas, Puerto Rico

Approach

- ARS will evaluate suitable field and watershed models and will conduct field surveys and analyze field data to calibrate their models.
- NRCS will develop a suite of innovative conservation practices, select willing cooperator farms and generate public outreach documents.
- NOAA will complete Summit to Sea analysis, a GIS characterization of coastal watersheds and predicted pollutant loads, as well as conduct water quality and sediment sampling to develop a comprehensive estuarine monitoring program.

Communicating Results

- Encourage implementation of innovative conservation approaches
- Use CEAP findings to review Caribbean FOTG's and make updates as necessary
- Provide yearly progress and final reports on the JW CEAP project supported by study data
- Develop recommendations for future assessments, evaluations and monitoring

Collaborators

- USDA – ARS
- USDA – NRCS
- NOAA – Coral Reef Conservation Program
- USFWS
- USGS
- Jobos Bay National Estuarine Research Reserve (NERR)
- Puerto Rico Agricultural Extension Service
- Puerto Rico Environmental Quality Board
- Puerto Rico Land Authority
- PR Dept. of Natural and Environmental Resources
- University of Puerto Rico – Mayaguez (UPRM)
- Sea Grant at UPRM
- UPR-Department of Marine Sciences

Contacts

- Timothy C. Strickland, Ph.D. [tim.strickland@ars.usda.gov]
USDA-ARS Southeast Watershed Research Laboratory
- Mark Walbridge, Ph.D. [mark.walbridge@ars.usda.gov]
USDA-ARS Soil and Water Resource Management
- Mark E. Monaco, Ph.D. [mark.monaco@noaa.gov]
NOAA Center for Coastal Monitoring and Assessment
- Dave Whitall, Ph.D. [dave.whitall@noaa.gov]
NOAA Center for Coastal Monitoring and Assessment
- Edwin G. Más, M.S. [edwin.mas@pr.usda.gov]
USDA-PR-NRCS Caribbean CIG/CEAP Coordinator
- William R. Effland, Ph.D. [william.effland@wdc.usda.gov]
USDA-NRCS – Resources Inventory and Assessment Division
- Howard Hankin [howard.hankin@wdc.usda.gov]
USDA-NRCS – National Aquatic Ecologist

February 2008

The U.S. Department of Agriculture is an equal opportunity provider and employer.

<http://www.nrcs.usda.gov/technical/nri/ceap/>