



United States Department of Agriculture  
Natural Resources Conservation Service

September 15, 2011

# CARIBBEAN AREA 2011 ANNUAL REPORT

*PRODUCTIVE LANDS — HEALTHY ENVIRONMENT*

*HELPING PEOPLE HELP THE LAND  
IN PUERTO RICO & THE U.S. VIRGIN ISLANDS*



## QUICK FACTS

- ◆ 20,392 acres of conservation planning completed
- ◆ 8,741 acres of cropland conservation applied to improve soil quality
- ◆ 19,085 acres of conservation applied to improve water quality
- ◆ 1,389 acres of irrigation improvements
- ◆ 12,691 acres of grazing land with conservation applied to protect/improve the resource
- ◆ 1,665 acres of conservation applied to protect fish & wildlife habitat
- ◆ Approximately 60% of financial assistance provided to beginning, limited-resource or socially-disadvantaged farmers
- ◆ Over \$4,780,300 in financial assistance to Caribbean Area producers & landowners



## MESSAGE FROM OUR STATE CONSERVATIONIST

*Greetings Caribbean NRCS Employees and Partners!*

*I am pleased to have this opportunity to share with you our 2011 NRCS Caribbean Area Annual Report, which covers my last term as your Director. Over the past few years, NRCS' annual accomplishments haven't been shared with the public in an Annual Report. This year, I am presenting the first NRCS Caribbean Area Annual Report to you, detailing your remarkable performance and efforts in implementing conservation in the Caribbean.*

*First, let me thank all of you for your contributions and commitment to NRCS. It is no secret that we had a rough year; but in the end, we successfully accomplished all our goals. To name a few: we met our Business Performance Items, obligated our assigned Farm Bill funds, completed our Business Plan, and signed over a dozen agreements with our partners.*

*I invite you to look through this Annual Accomplishments Report to review our achievements in the Caribbean during FY 2011. These are your accomplishments and they could not have been realized without your support.*

*Know that I am proud of our accomplishments, our work in the Caribbean, and your dedication to Helping People Help the Land in the Caribbean.*

*Yours in Conservation,*

*Edwin Almodovar  
Director*

## Conservation Innovation Grants (CIG)

CIG is a voluntary program to stimulate innovative conservation projects in conjunction with agricultural production. CIG enables NRCS to work with public and private entities to promote the use of promising technologies to address resource concerns (soil, water, air, plants, animals, energy). CIG applications in the Caribbean Area are accepted from State or local government agencies, non-governmental organizations (NGO's) and individuals. CIG State Component grants do not exceed \$75,000, and applicants must provide a non-Federal match of at least 50 percent of the total project cost, up to one-half (25%) of which can be in-kind contributions.



*Salt grass (Spartina patens) can be used as a conservation buffer in salt flats adjacent to agricultural lands in the Caribbean Area.*

In Fiscal Year 2011, NRCS awarded \$115,000 to 2 projects in Puerto Rico that will demonstrate and/or validate new technology for the Caribbean Area:

**Project 1:** "Production of Vermi-compost and Related Products via a Resource Recovery Two-stage Organic Material Transformation System," awarded \$39,866.00. It will impact producers under the NRCS Organic Initiative.

**Project 2:** "Establishment of Salt Flat Tolerant Vegetation as Conservation Buffers to Help Retain Potential Pollutants Entering into Marine Environments," awarded \$75,000. It will establish approximately 2,000 acres of salt flat vegetation to control sediment and other potential pollutants from agricultural lands, recreational lands, urban areas, and other coastal areas as part of the NRCS Coral Reef Initiative.

## Environmental Quality Incentives Program (EQIP)

EQIP is a voluntary conservation program to provide farmers with financial and technical assistance to install and implement conservation practices on eligible agricultural lands. Through EQIP, farmers in Puerto Rico and the Virgin Islands may receive assistance for agricultural production and environmental quality as compatible goals.



In FY 2011, NRCS approved 312 contracts providing \$4,557,804 in financial assistance to benefit 13,660 acres in the Caribbean Area, including contracts specific to three major initiatives: Coral Reefs, Energy & Organic Farming. Almost 60% of these funds were provided to beginning, limited-resource or socially-disadvantaged farmers.



### EQIP Energy Initiative

NRCS & the Puerto Rico Milk Industry Development Fund have launched a new initiative to help dairy producers transition to more energy efficient operations. The Energy Initiative funds individual on-farm energy audits designed to save farmers both money and energy. To kick-off the program, the National Association of Resource Conservation & Development Councils held a Farm Energy Audit Data Collector Training certification workshop on April 25, 2011, for 16 EnSave, PR Department of Agriculture, Extension Service and El Atlántico RC&D personnel and private engineers. Trainees will conduct on-farm energy audits for 50 eligible participants to identify how farm operations can become more energy-efficient, and use audit results to develop cost-effective Agricultural Energy Management Plan (AgEMPs). This year, NRCS has approved 60 Energy Audit contracts for \$88,372.

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## EQIP Coral Reef Initiative

The Guánica-Río Loco Watershed Project is located in the southwestern corner of Puerto Rico and covers portions of Guánica, Yauco, Lajas and Cabo Rojo. NRCS is working with producers in the Guánica-Río Loco Watershed to voluntarily implement conservation practices that avoid, control, and trap sediment and nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. The project began in 2009 as a multiagency effort to support the U.S. Coral Reef Task Force's local action strategy to reduce the impacts of land-based sources of pollution on coral reefs. The project involves many conservation partners including state and local government and nongovernment organizations.



*Photo courtesy of NOAA*

In 2010, NRCS allocated \$ 1 million in federal and state funds for the project's first stage sediment control and irrigation system restoration on Santa Rita and Maria Antonia farms in Guánica Valley. Practices installed during this stage included three 3-acre water reservoirs, two 3-acre sediment basins, 5500 feet of open channels, 6000 feet of pipeline, 4500 feet of grassed waterways, and pump houses with irrigation system upgrades to serve approximately 900 acres.

In FY 2011, NRCS allocated \$ 1 million for the 2nd stage to connect the PREPA irrigation channel with a 6000-foot, 18" pipeline to the 1st stage, and at the same time restore irrigation systems and runoff control on Fraternidad farms. The second stage includes 6600 feet of water conveyance, pump houses, two water reservoirs, one sediment basin, and irrigation water system upgrades to serve approximately 350 acres.



*Río Loco river bank damage to be stabilized with bioengineering.*

Both stages include stabilization projects along Río Loco river banks. Three segments (Las Latas sector, the former irrigation channel crossing, and the old bridge pilasters of the sugar cane train) will be reconstructed using bioengineering.

## EQIP Organic Initiative

EQIP's Organic Initiative targets currently certified organic producers and those transitioning to organic farming. It helps producers plan and implement conservation practices to make their organic operations environmentally sustainable. Funding is available for a large number of conservation practices including cover crops, crop rotation, integrated pest management, wind breaks, filter strips, fence, livestock water sources, rotational grazing.



In FY 2011, NRCS approved 5 Organic Transition contracts for local producers for a total of \$48,692. These contracts are mostly for vegetables and root crop producers whose farms are located in steep areas with many limitations for crop production. Resource Management Systems will be developed for these farms to address soil erosion and water quality resource concerns. The primary conservation practices planned for the EQIP Organic contracts are crop rotation, residue management-no till, residue management-mulch till, riparian forest buffer, vegetative barriers, contour farming, nutrient management and integrated pest management.

## Wetlands Reserve Program (WRP)

WRP helps landowners protect, restore or enhance wetlands on agricultural and non-agricultural lands, while maximizing wildlife benefits. Restored wetlands provide habitat for migratory birds, threatened and endangered species, and other wetland wildlife. To date, 1 easement has been funded in Puerto Rico encompassing 1,236 acres of fresh & salt water wetlands. In FY 2011, NRCS enrolled 1 application covering 284.5 acres and \$1.6 million.

*Salt ponds & their associated wetlands provide vital fish & wildlife habitat for threatened & endangered species.*



*Shade coffee orchards provide for wildlife habitat in Puerto Rico.*

## Wildlife Habitat Incentives Program (WHIP)

WHIP helps establish and improve fish & wildlife habitat in the Caribbean Area. It provides financial and technical assistance on private agricultural and non-industrial private forest land to assist eligible clients.

In FY 2011, \$107,496 in WHIP funds were obligated to promote habitat restoration in the buffer area of the Maricao State Forest, funding 10 applications to improve 380 acres of upland habitat. Targeted species include *Accipiter striatus* (Puerto Rican Sharp-shinned Hawk), *Caprimulgus noctitherus* (Puerto Rico Nightjar), *Dendroica angelae* (Elfin Woods Warbler), *Epicrates inornatus* (Puerto Rican boa) and Neotropical migratory birds.

## Emergency Watershed Protection (EWP)

The Emergency Watershed Protection (EWP) program helps communities to implement emergency measures, including purchase of flood plain easements, to relieve imminent hazards to life and property created by a natural disaster. EWP is designed to install practices to help areas recover from flood, drought, erosion, landslides and sedimentation on any watershed whenever fire, flood, storms or any other natural disaster has caused a sudden impairment of the watershed.



On August 25, 2011, NRCS made \$200,000 available through EWP to assist communities in Puerto Rico that suffered damages to watershed areas as a result of Hurricane Irene. Local sponsors can apply for funds to remove debris from streams, protect destabilized stream banks, establish cover on critically eroding lands, and/or purchase flood plain easements.

## Plant Materials Program (PMP)

The NRCS Caribbean Area Plant Materials Program helps to identify vegetation suitable for conservation purposes. The program compares vegetation adapted to specific life zones in Puerto Rico and the U.S. Virgin Islands with the major purpose of applying plant materials to protect resources, such as soil and water quantity and quality, while maintaining production on agricultural lands.

Vetiver grass (*Chrysopogon zizanioides*), used in many tropical and subtropical areas of the world to control soil erosion, is a prime example of this work. Vetiver grass is native to southern Asia and was introduced to PR over 100 years ago. Eight vetiver accessions were evaluated and compared to a locally-grown variety now known as “var. Sierra,” after Mr. Aurelio Sierra Bracero, a former USDA-SCS employee and one of the pioneers of the Plant Materials Program in the Caribbean Area. Local vetiver grass “Sierra” was initially collected at Rosario Ward in Mayaguez, PR. “Sierra” vetiver grass was selected among the other accessions for its adaptation to local conditions. It is considered sterile as its seed germination is extremely low and does not germinate in all climate conditions. During the 1990’s, NRCS distributed over 1 million “Sierra” vetiver grass plants throughout Puerto Rico and the U.S. Virgin Islands. Vetiver grass is used in many private and government conservation projects to prevent landslides on road shoulders and trails, and as a vegetative barrier on cropland.

Other work by the Plant Materials Program includes: identification of native and/or naturalized vegetation for conservation practices such as forages, critical area planting, tree planting and conservation buffers.

Vetiver grass (*Chrysopogon zizanioides*) stabilizes soil in a bioengineering project in Caguas, PR.



## Soil Survey Program

The NRCS Caribbean Area Soils Survey Division is part of the National Cooperative Soil Survey (NCSS) program, a nationwide partnership of federal, regional, state and local agencies and institutions.

The Mayagüez Major Land Resource Area’s Soil Survey Office (MLRA SSO) evaluates, updates and enhances the soil surveys for Puerto Rico and the U.S. Virgin Islands under the new MLRA project approach. The MLRAs are geographically-associated land resource units that identify homogeneous areas of land use, elevation, topography, climate, water resources, potential natural vegetation and soils. There are four MLRAs recognized in the Caribbean Area: 270 – Humid Mountains and Valleys; 271 – Semiarid Mountains and Valleys; 272 – Humid Coastal Plains and 273 – Semiarid Coastal Plains.

During FY 2011, the Mayagüez MLRA SSO has been working with MLRA 270 - El Yunque National Forest SSURGO certification project. The field evaluation and progress field review have been completed and the soils database is currently being updated. The project will be completed with the certification and update of 27,847 acres to the Web Soil Survey and Soil Data Mart on-line applications.



NRCS Soil scientists performing soils evaluation at El Yunque National Forest.

In June 2011, the MLRA 272: Coloso Series Evaluation project and MLRA 270 – 273: Benchmark Soils Evaluation projects were approved for subsequent update.

## Conservation Technical Assistance (CTA)

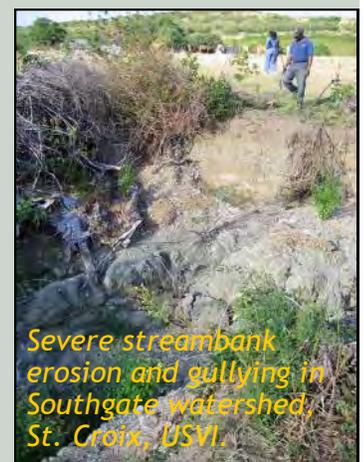
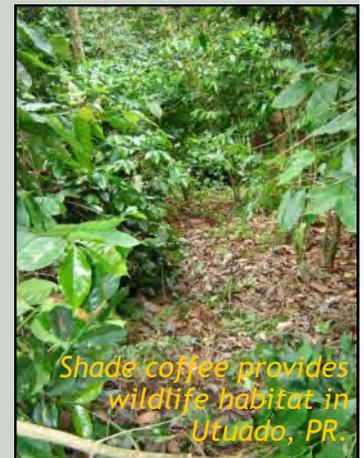
NRCS provides conservation technical assistance (CTA) to land users to help them make sound natural resource management decisions. Assistance may be in the form of resource assessment, practice design, resource monitoring, or follow-up of installed conservation practices. NRCS also holds outreach activities to increase participation of socially-disadvantaged farmers and ranchers in our programs and provide information to underserved groups and individuals.



**Outreach:** In FY 2011, we provided CTA to over 4,830 clients and media outreach to over 150,000 residents through over 1,450 separate activities and contacts including: training workshops, onsite investigations and evaluations, conservation plans, technical consultations, advisory committees, newspaper and newsletter articles, radio and television appearances, conference presentations, public meetings, informational mailings and email blasts, outreach publications (factsheets, brochures, reports), posters and exhibits, NRCS Caribbean Area website, and personal contacts.

**Grants:** The NRCS Caribbean Area awarded 7 Conservation Technical Assistance Program (CTAP) grants in FY 2011. The purpose of the CTAP grant awards is to increase NRCS technical capacity and to further enhance partnership opportunities in the Caribbean Area to accomplish the Agency's conservation objectives and priorities. The projects funded include:

- Cooperative agreement with Suroeste SWCD to assist producers in the Guánica/ Rio Loco watershed in implementing water conservation and runoff management practices.
- Cooperative agreement with Caribe SWCD to assist producers in the South Aquifer watershed in implementing water conservation, runoff management and energy conservation practices.
- Cooperative agreement with the Innovation Fund for Agricultural Development (IFAD), in cooperation with the PR Department of Agriculture, to increase land user implementation of conservation practices and encourage increased participation in the Agency's energy and organic initiatives.
- Cooperative agreement with the U.S. Fish & Wildlife Service (FWS) Caribbean Islands National Wildlife Refuge (NWR) to collect, propagate and plant native tree and shrub species in Puerto Rico's Rio Loco/ Guánica watershed.
- Cooperative agreement with the U.S. FWS to assist farmers in the Guánica Bay/Rio Loco watershed with implementation of conservation practices to convert coffee plantations from sun coffee to shade coffee in order to establish a wildlife corridor between Maricao and Guilarte Forests.
- Cooperative agreement with the St. Croix Environmental Association to develop engineering designs and specifications to implement watershed restoration projects to reduce land-based sources of sediment from two priority sites in watersheds contributing to the St. Croix East End Marine Park (STXEEMP).
- Cooperative agreement with Atkins to deliver 4 technical workshops / outreach activities to introduce farmers to the nutrient management process and increase their understanding of crop nutrient needs and proper soil sampling techniques.
- Cooperative agreement with Caribbean Environmental Films, Inc. (CEFI) to produce two high definition video documentaries to promote the Agency's conservation accomplishments in the Caribbean.



## Partnerships

After years of inactivity, and with the leadership of NRCS, the Puerto Rico Soil and Water Conservation Districts (SWCD) were reinstated during 2010. The SWCDs in Puerto Rico and the U.S. Virgin Islands have been inactive in conservation in the Caribbean Area for a number of years, and it has impacted the way NRCS delivers its Mission. During 2010, the PR Department of Agriculture worked hand-in-hand with NRCS to re-activate the 17 SWCDs in Puerto Rico. Similar dialogues are taking place in the USVI with the expectation that their SWCD will become active in the near future.



During FY 2010, NRCS Caribbean Area, in partnership with the PR Department of Agriculture, entered into an agreement with Atkins Caribe LLC, a private engineering services firm, to provide training to the newly appointed and selected SWCD Supervisors and Directors. Throughout the month of February of 2011, Atkins Caribe, the National Association of Conservation Districts (NACD), the PR Department of Agriculture and NRCS Caribbean Area provided capacity-building training to empower the newly-established SWCDs in Puerto Rico.

## Resource Conservation & Development (RC&D)

The NRCS Resource Conservation & Development (RC&D) program helps local groups and communities conserve, develop and wisely use their natural resources. RC&D supports improved economic activity and seeks to enhance the environment and standard of living in the three federally-authorized RC&D areas in the Caribbean.

Before elimination of federal RC&D funding, NRCS provided assistance to El Atlantico, El Caribe and Virgin Islands RC&Ds. V.I. RC&D partnered with NRCS and the AMPS Entrepreneurship & Leadership Institute to conduct a “Mission Possible: Youth Entrepreneurship Camp” on December 15-17, 2010, in St. Croix. The Camp – funded by a \$35,000.00 NRCS outreach grant – taught 19 USVI high school students the basic knowledge and skills to compete successfully in a free market system. Students learned how to start, manage and grow an agriculture / conservation-related business to become tomorrow’s business leaders.



V.I. RC&D President (L), students & AMPS trainers at the Youth Entrepreneurship Camp, Carambola Beach Resort, St. Croix.



El Atlantico RC&D received a USDA Rural Business Opportunity Grant to develop a coffee classification system as the basis for a certification program. The project is helping 25 coffee producers determine which coffee varieties perform best at certain conditions (elevation, soils, microclimate and cultural practices); conserving 1,041 acres in coffee production. Two “cupper” (coffee classification & rating) trainings were held at the Adjuntas Agricultural Experiment Station for 38 participants representing 20 coffee producers. Coffee quality scores for the 11 varieties tested found the Bourbon, Caturra and Pacas varieties consistently scored up to 84 points, indicative of premium quality in today’s markets.

## Civil Rights Advisory Committee (CRAC)

The NRCS Caribbean Area CRAC members represent field and state office employees from Puerto Rico and the US Virgin Islands, and serve in an advisory role to the Director. Our Mission is to provide counsel and recommendations to the Director on civil rights for all clients and employees. Our Vision is “A diverse workforce that, by reflecting the face of the Caribbean Area, will provide equal opportunity and quality of service to all customers.”

There are eight Special Emphasis Programs (SEPs) that are part of the Civil Rights Advisory Committee and each has its own SEP Manager (or SEPM): African Americans; American Indians/ Alaska Natives; Asian Americans/ Pacific Islanders; Persons with Disabilities; Lesbian, Gay, Bisexual and Transgender (LGBT) Individuals; Hispanics; Veterans; and Women.

Fiscal year 2011 CRAC member accomplishments include:

- 60% of FY11 Farm Bill Program participants were Beginner, Limited-Resource, or Socially-Disadvantaged Farmers.
- 15% of FY 11 Farm Bill Program participants were Women.
- Participation in Agropolis: 1-week farmer & community agriculture fair with over 20,000 attendees.
- Participation in Congress of Livestock Marketing Opportunities with over 500 attendees.
- Participation in Veterans Job Fairs.
- Conducted 10 outreach activities in Guánica/ Rio Loco watersheds under the Coral Reef Initiative.
- Held 5 EQIP Organic / 2008 Farm Bill public outreach meetings.
- Participation in the UPR Extension Service “Women in Puerto Rico’s Agriculture” workshop with 50 women farmers & ranchers.
- Participation in September 2011 University of Puerto Rico - Mayagüez Job Fair with NRCS Recruitment Team.

CRAC Chair, Carlos E. Morganti, leads Catholic University students on a natural resources tour.



NRCS Recruiters at UPRM 2011 Job Fair (L-R): Carlos Suárez (Florida State Conservationist), Carlos Morganti (Caribbean Area [CB] CRAC Chair), Mario Rodríguez (CB CRAC Vice Chair), Terry Howard (Florida Human Resources [HR] Specialist), Elizabeth Hernández (CB HR Manager), Natalie Irrizarry (Wisconsin Hispanic SEPM), Juan Hernández (Maine State Con), Edwin Almodóvar (CB Director) and Luis Hernández (Arkansas State Soil Scientist).

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# CARIBBEAN AREA

NOT TO SCALE



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- COROZAL, PR (787) 859-2880
- JUANA DIAZ, PR (787) 837-4450
- MAYAGUEZ, PR (787) 831-3454
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