



Working Together to Restore Forest & Coral Reef Habitats in Río Loco/ Guánica Bay, PR

Background

In November 2009, NRCS Chief, David White, launched the Agency's initiative to conserve coral reefs. To date, USDA has pledged over \$2.9 million in Environmental Quality Incentives Program (EQIP) funds to reduce sediment and nutrient runoff from southwest Puerto Rico's Guánica Watershed Project to help protect near shore coral reef ecosystems. The Guánica Watershed Project is a multi-agency effort to preserve and protect coral reef ecosystems. NRCS is working with producers and partners in the watershed to voluntarily implement conservation practices to avoid, control, and trap sediments and nutrient runoff and improve wildlife habitat while maintaining agricultural productivity. The goal is to protect coastal and stream water quality, improve wildlife habitat for threatened and endangered species, and enhance near shore coastal and coral reef health through improved land-based management.

FY 2013 Update

During fiscal year 2013, the Guánica Watershed Project experienced great challenges. Climate change, resource availability, and changes in local government (including officials in charge of the permit filing process), amongst other issues have made this project one of major challenges and tests. In spite of these challenges, NRCS and our conservation partners have successfully implemented almost 80 percent of the structural conservation practices planned to manage runoff and improve water quality in the watershed. The initiative to restore and protect Guánica Bay's coral reefs is developing and taking shape, thanks to the efforts and support of our many partners in conservation.



4-acre Sediment Basin built south of Maria Antonia Farm in Guánica. (Photo: M. Rodriguez, NRCS)



Irrigation water conveyance system installed through Fraternidad, Santa Rita Farms, covering approximately 1500 acres of farm land. (Photo: M. Rodriguez, NRCS)



3-acre Irrigation Reservoir built on North Santa Rita Farm to serve approximately 200 acres of farm land. (Photo: M. Rodriguez, NRCS)



Hydroseeding of impacted areas was completed in partnership with the Southwest Soil and Water Conservation District, NOAA, Protectores de Cuencas, and Ridge-to-Reefs. (Photo: M. Rodriguez, NRCS)



Open channel gabion outlet guard will keep the discharge area protected from runoff and erosion during rain events. (Photo: M. Rodriguez, NRCS)



NRCS MLRA Soil Division preparing soil profile description for engineering design purposes. (Photo: M. Rodriguez, NRCS)



Guánica Valley Cropland is intensively worked year-round. (Photo: M. Rodriguez, NRCS)



Heavy-use areas are addressed to fix erosion damage and protected to avoid future problems. (Photo: M. Rodriguez, NRCS)



Coffee is still the most important crop in the upper Río Loco Watershed. (Photo: M. Rodriguez, NRCS)

Accomplishments

Since 2009, over 2,700 acres in the watershed have been enrolled in NRCS EQIP to date to benefit over 250 square miles of marine ecosystems. At least \$2.9 million has been obligated to date, funding 68 conservation plans. Practices installed include:

- Guánica Watershed Project allocated \$1,635,793 for water quality and runoff control in Guánica Valley.
- To date, over \$537,595 in payments have been made for conservation practice implementation.
- The Southwest Soil and Water Conservation District is in charge of conservation practice implementation and supervision of the Guánica Watershed Project.
- The existing deep well irrigation system was replaced with surface water irrigation conveyance from Loco Dam to reduce the amount of water extracted from the aquifer.
- Since 2010, the Southwest Soil and Water Conservation District has administered runoff control structural practice implementation in the agricultural valley in Guánica Watershed.
- The construction of another new sediment control basin with a 4.0 million gallon (Mgal) runoff water holding capacity has been started as part of the next stage of the project.
- Over 3,350 linear feet of open channels will be added to Maria Antonia Farm, diverting runoff water out of farm fields. These channels are started ahead of schedule on September 2013.
- All conservation practices are funded through the NRCS Environmental Quality Incentives Program (EQIP) and the PR Department of Agriculture (PRDA).
- One more new irrigation water reservoir will be built and two existing reservoirs will be reshaped to add about 10 MGal of clean water to irrigate valley farms. This will safe-guard the available water in the aquifer and recharge it at the same time.
- US Fish and Wildlife Service (USFWS), in partnership with NRCS on the Shade-Coffee Initiative, is the lead for site evaluation and forestry and wildlife recommendations.
- 769 acres have been contracted as part of the Shade-Coffee Initiative portion of the Guánica Watershed Project to convert the cropping systems of 30 farms from sun-coffee to shade-coffee.
- \$438,197 in active conservation has been allocated for shade-coffee since the Initiative began in 2010. Over \$320,875 in implementation assistance payments have been made for reforestation and conservation practices to participants that changed their cropping systems from conventional sun-coffee to conservation shade-coffee.

Site & Project Description

The Guánica Bay watershed is located in the southwest corner of Puerto Rico and covers portions of Guánica, Yauco, Lajas and Cabo Rojo counties. The watershed is about 52,000 acres in size with rainfall ranging from less than 20 inches/year in the arid southwest to over 100 inches/year in the mountains, and includes Spanish Colonial cultural resources. Crops include: coffee, citrus, plantains, bananas, tomatoes, peppers, papaya, pumpkins, cantaloupes, and other vegetables. Area farmers also produce beef, pork, sheep, goats, and eggs.

The **Upper Río Loco** watershed has very steep slopes and humid subtropical forest vegetation. Conservation goals are to reduce erosion, improve water quality and quantity, improve forest habitat for wildlife, and apply conservation practices like tree and shrub planting, nutrient and pest management, and riparian forest buffers. NRCS and the U.S. Fish and Wildlife Service (USFWS) Caribbean Field Office are partnering to provide technical assistance to area stakeholders to convert sun coffee plantations to shade to improve wildlife habitat.

The **Lower Río Loco** watershed has flat slopes and dry subtropical forest vegetation. Conservation objectives are to reduce erosion and sediment deposition from the upper watershed, improve water quality and quantity for irrigation, manage flooding and stabilize riverbanks. Conservation practices include: water management, sediment basins, nutrient and pest management, tillage systems using residues and cover crops, and runoff control. NRCS, the PR Department of Agriculture and the Land Authority are partnering to assist stakeholders.

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