



Natural Resources Conservation Service – Caribbean Area

654 Plaza, Suite 604
654 Muñoz Rivera Ave.
Hato Rey, PR 00918-4123

Success Story

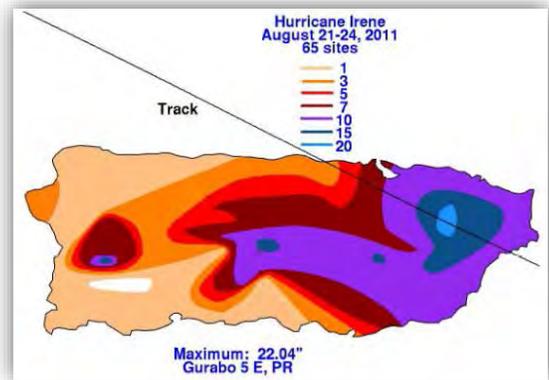


Contact:

Edwin Almodóvar
NRCS Caribbean Area Director
787-766-5206 x115 / 787-370-2703
Edwin.Almodovar@pr.usda.gov

EMERGENCY WATERSHED PROTECTION: HURRICANE IRENE RECOVERY

Hurricane Irene hit Puerto Rico on August 21, 2011 with 75 mph winds and pummeled the island with torrential rainfall up to 3 days after, causing widespread damage from flooding, severe erosion and landslides. The northeastern and central portions of the island were most severely hit, with a maximum 22.05 inches of rainfall recorded in Gurabo Abajo. After the storm, President Barack Obama signed an emergency declaration for Puerto Rico enabling federal agencies to provide disaster assistance to recover from the storm’s widespread damage.



Map of rainfall amounts across Puerto Rico from Hurricane Irene (NOAA National Weather Service).

Applying for Emergency Watershed Protection Assistance

In the aftermath of Hurricane Irene, NRCS worked to provide disaster assistance funds to communities that suffered damage to watershed areas. Through the Emergency Watershed Protection (EWP) program, NRCS helps to reduce threats to life and property from watershed damage from erosion, debris, and sediment. These damages can cause further flooding, soil erosion, and damage to infrastructure. NRCS provides 75 percent of the project cost, assesses the damage, and plans for the repairs needed. Local sponsors provide the design, inspection, administration and remaining 25 percent of the cost along with land rights and any needed permits.

NRCS received applications to repair 50 sites across the island. Nine sites qualified for EWP funding, and after processing, USDA-NRCS allocated \$1,800,000 on January 23, 2012 to help six communities in Puerto Rico to recover from damages to their watershed areas.



Streambank damage on Los Mendez Creek in Yabucoa.

“Many areas in Puerto Rico experienced historical rain events after Hurricane Irene. Some drainage ways had a tremendous amount of debris blocking the flow,” said Edwin Almodovar, NRCS Caribbean Director. “This debris, often from downed trees, can create more damage from subsequent rainfall events if not removed quickly.”

Accomplishments

NRCS partnered with the Puerto Rico Department of Natural and Environmental Resources and local municipal governments to install recovery projects in Caguas, Humacao, Las Piedras, Maunabo, and Yabucoa counties to reduce threats to life and property:



Site Name	County	Scope of work	Project / Site Funding		
			SPONSOR (25%)	NRCS (75%)	Total
Los Muertos Creek	Caguas	Install gabion mattress revetment on approximately 365 feet of stream bank.	\$250,000.00	\$750,000.00	\$1,000,000.00
La Ponderosa Creek	Caguas	Install gabion wall on approximately 150 feet of stream bank.	\$15,000.00	\$45,000.00	\$60,000.00
Candelerio River	Humacao	Clear and shape approximately 1300 feet of the river.	\$6,250.00	\$18,750.00	\$25,000.00
Quebrada Arenas Creek	Las Piedras	Clear and shape approximately 4000 meters of the creek.	\$22,500.00	\$67,500.00	\$90,000.00
California Creek	Maunabo	Install gabion wall on approximately 100 feet of stream bank.	\$11,250.00	\$33,750.00	\$45,000.00
Los Mendez Creek	Yabucoa	Install gabion wall on approximately 1200 feet of stream bank.	\$176,500.00	\$529,500.00	\$706,000.00

All 6 projects were completed by July 2014 for a total of \$1,538,959.45 invested by NRCS and \$220,934.47 invested by sponsors. Over 7,240 feet of stream bank was cleared and snagged, and approximately 1,940 ft. of gabion protection was installed. The projects benefited 97 private houses, 3 recreational facilities, 1 hospital, 5 bridges, and numerous roads, sidewalks, fences, sewer pipelines and light poles. Over 14,672 people were protected, providing a net benefit of over \$12,000,000.

For additional information about the NRCS Emergency Watershed Protection Program or current EWP projects, please contact **Damaris Medina** at **787-766-5206 x125** or damaris.medina@pr.usda.gov, or visit www.pr.nrcs.usda.gov.



Los Muertos Creek, Caguas.



Los Mendez Creek, Yabucoa.



La Ponderosa Creek, Caguas.