PARTNERSHIP FOR THE GUÁNICA BAY WATERSHED

April 2011

Volume 2, Issue 2

GUÁNICA BAY WATERSHED UPDATE

U.S. Coral Reef Task Force Partnership Initiative Fund 2010 Update

Inside this issue:

All seven projects that received funding through the U.S. Coral Reef Task Force Partnership Initiative 2010 grant cycle are now underway in the Guánica/Rio Loco watershed. The National Fish and Wildlife Foundation (NFWF), which administers this fund, receives updates from project leads periodically throughout the term of their project.

One project that NFWF can provide an update on is the Conservation Trust of Puerto Rico project, "Education and Clean-Up at Punta Ballena". This project will implement a two-tiered, 18-month program that seeks to provide on-going educational training on the importance of the Guánica/Rio Loco watershed and lead to continuous clean-up activities at the project site. Multiple aspects of this project are in the final development stages and close to implementation. The educational brochure is in the process of being researched and written. Concurrently, project leads are finalizing an invitation to send out to schools to encourage participation in lectures and clean-up activities. The pre- and post-tests that lecturers will administer in conjunction with the in-class talks are also being finalized. Finally, information for the staging of a conference is being gathered.

Punta Ballena Reserve is an exceptional coastal ecosystem adjoining the Guánica Dry Forest. Features include a beautiful beach, clear waters, and mangrove forests.

Submission Guidance

The Guánica Bay Watershed Update is issued bi-monthly. Please send any notices that you would like to share with the group to Patricia Bradley (bradley.patricia@epa.gov).

Please send photos that support your story and include a caption for each photo.

Celebrate Earth Day on April 22

The idea behind Earth Day – honoring the planet and all living things that inhabit it – began in the 1960s, when a handful of conservationists and scientists realized that air and water pollution was destroying the natural world. In 1962, Rachel Carson, published *Silent Spring*, which documented the detrimental effects of pesticides on the environment, particularly on birds. Air pollution in Los Angeles, New York City and other cities had reached dangerously high levels, impacting human health. In 1969, Ohio's Cuyahoga River caught fire from all the hazardous wastes that were regularly dumped into it.

Senator Gaylord Nelson proposed that in the spring of 1970 there would be a coast-to-coast grassroots demonstration on behalf of environmental concerns. The first Earth Day was attended by 20 million Americans nationwide, on college campuses and in town halls.

In months following that first grassroots event, the Endangered Species Act, the Clean Air Act, the Clean Water Act were passed, and both EPA and NOAA were established. President Nixon said that EPA was created to introduce a "broad systems approach [that]...would give unique direction to our war on pollution." According to Nixon, NOAA was formed "...for better protection of life and property from natural hazards... [and] for exploration and development leading to the intelligent use of our marine resources." And so, Earth Day led to institutionalized protection for the land, air and water.

In 1990, Earth Day went global, and over 200 million people participated, making it one of the most-attended organizational activities ever created. Today more than 140 nations have their own Earth Days, and information movements encompass clean energy solutions as well as examining climate change due to global warming.

Celebrate Earth Day! One of the most popular ways to celebrate Earth Day is to plant a tree. Trees help reduce greenhouse gas emissions and release oxygen into the air. Another way to celebrate is to pick up trash from along the road, in a park, or along a stream or beach. Start a community vegetable garden— community gardens provide fresh produce and plants as well as satisfying labor, neighborhood improvement, sense of community and connection to the environment

Or check out the EPA photo collection of the 1970s at: http://www.flickr.com/photos/usnationalarchives/collections/72157620729903309/ . From 1971 to 1977, the EPA hired freelance photographers to capture images relating to environmental problems, EPA activities, and everyday life in the 1970s. The U.S. National Archives digitized more than 15,000 photographs from the series and 4,000 of those images can be viewed on the site.

Through our everyday choices and actions, we collectively have a huge impact on our world. It's really a simple concept, but one with far reaching effects.

Puerto Rico Water Monitoring Day - April 30, 2011

The need for water is fundamental for all living things. It is critical that individuals become aware of the ways in which they can impact water quality. Every year, the San Juan Bay Estuary Program and the Environmental Quality Board coordinate the Puerto Rico Water Quality Monitoring Day. This day was proclaimed in 2009 by the Governor of Puerto Rico to promote public awareness on the importance of our water bodies.

This year the event will be held on April 30th with the participation of over 1,500 people around the island including groups in San Juan, Bayamón, Jayuya, Arecibo, Salinas, Ponce, Guánica, Lajas, San Germán among more than one hundred areas island wide that will be monitored. The data obtained from the monitoring efforts will be sent to the World Water Monitoring Day Organization to be included in their worldwide database. The coordination of this event is supported by other organizations such as the Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), National Estuary Research Reserve at Jobos Bay (JOBANERR), Puerto Rico Water and Environment Association, the Caribbean University among others. For more information on this event, please contact the San Juan Bay Estuary at 787-725-8165 or grivera@estuario.org.

Superfund Conference on April 15th in Ponce

EPA has partnered with the Ponce School of Medicine to hold a one day conference on April 15th at the Ponce Convention Center. The event focuses on Superfund - we are celebrating the 30th Anniversary of this program which has been crucial in cleaning up extremely polluted sites throughout the Nation.

Superfund is the name given to the environmental program established to address abandoned hazardous waste sites. It is also the name of the fund established by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended. This law was enacted in the wake of the discovery of toxic waste dumps such as love Canal and Times Beach in the 1970s. It allows the EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-lead cleanups.

The conference will showcase the extraordinary work which has been done through the Superfund program during the past 30 years in Puerto Rico. A listing of cleanup sites in Puerto Rico can be found at: http://www.epa.gov/region02/cleanup/sites/prtoc_sitename.htm.

Shade Coffee Roundtable in Puerto Rico Provides Momentum for Local Next Steps

A pilot project for watershed planning in Puerto Rico is well underway through on-the-ground efforts outlined in the Guánica Bay Watershed Management Plan (CWP, 2008) with a multi-stakeholder approach. A central problem in the Guánica Bay watershed is the high sediment load to the waterways and coral reefs. Upland erosion in the coffee growing regions was identified as a land based source of pollution where steep slopes, high tropical rainfall patterns, and highly erodible lands exist. Converting from sun grown coffee to shade grown coffee keeps the sediment on the farms and off the coral reefs. Early successes in the Guánica Bay to convert to shade grown are ongoing but several obstacles still exist to ensure shade grown coffee growers are economically successful.

To discuss the shade grown coffee obstacles and develop solutions a Shade Grown Coffee Roundtable convened March 9th in Yauco, Puerto Rico. This Roundtable had several partners that included the Center for Watershed Protection, Inc., US Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), NOAA Coral Reef Program, NOAA Habitat Restoration Center, and US Fish and Wildlife Service (USFWS), and was funded by National Fish and Wildlife Foundation (NFWF). The goals of the Shade Grown Coffee Roundtable were to: 1) assist farmers in Puerto Rico growing shade grown coffee to improve marketing and receive a higher premium and return for their products; 2) bring together a group of experts and farmers to convene a discussion about how to the achieve the above; and 3) identify domestic/Puerto Rico coffee markets as well as international and Caribbean markets.

Group 1 break out session. Picture includes (from left to right) Ferdinand Rivera-Villalba (local farmer and President of Café Dona Ana, Hacienda Ana Luisa), local farmer, Lenith A Arocho (Department of Agriculture), Ricardo J. Colon (NFWF), Department of Agriculture representative, and Jose A. Castro (NRCS). Picture courtesy of Silmarie Padron (NFWF).

Group 2 break out session. Picture includes (from left to right) Carlos E. Morganti (USDA-NRCS), local farmer, Louis Meyer Comas (local farmer), EnviroSurvey representative, and Luis Roig Franceschini (local farmer, Agricultor Café). Picture courtesy of Silmarie Padron (NFWF).

The twenty-three attendees gathered in the Yauco hills at Mr. Luis Roig's farm. Mr. Louis Meyer Comas welcomed the group and discussed the importance to gather farmers, state agencies, federal agencies, and local non-profits to share ideas and develop solutions. Roberto Viqueira Rios (Guánica Restoration Coordinator) and Silmarie Padron (USFWS) provided an overview of the watershed efforts and shade coffee initiative. Then three break out groups were formed to discuss: 1) Marketing and Distribution; 2) Infrastructure and Equipment; and 3) Certification. During the break out sessions at least one of the facilitators joined each group. For each of the three main discussion topics the groups considered these three major points during each discussion: 1) current state of affairs; 2) existing obstacles; and 3) potential solutions.

Group 3 break out session. Picture includes (from left to right) Department of Agriculture representative, Roberto Viqueira Rios (Guánica Restoration Coordinator), Pedro Bengocha (local farmer in the Castañer area), and Lisette Fas-Quinones (Cafi Esencia).

The entire Roundtable came back together and one representative from each group reported the findings and summary statements. Based on these results we found that shade grown coffee can be more prevalent in Puerto Rico with improved incentives, a certification process, improved access to labor and equipment, and improved economic markets for farmers and their product. The Roundtable identified the need for farmer cooperatives that enable sharing equipment, labor, information, and enable higher marketing potential. This Roundtable also called for a "Certification Board" that is made up of core local stakeholders and will begin to develop shade coffee certification guidelines, procedures, and a shade coffee label. Furthermore, funding mechanisms were discussed at the Roundtable and the group is moving to pursue these and identify additional mechanisms to achieve the Roundtable recommendations. In addition, Guánica Restoration Coordinator and USFWS will present these findings and needs to the NRCS State Technical Committee in early April.

Capturing the Shade Coffee Roundtable break out recommendations. Picture includes (from left to right) Louis Meyer Comas (local farmer) and Silmarie Padron (NFWF).

The Shade Coffee Roundtable met to not only sample local shade grown coffee but also develop the first steps to identify stakeholder groups, discuss obstacles and solutions, and create a list of tangible actions and responsible parties to achieve the group's collective goals.

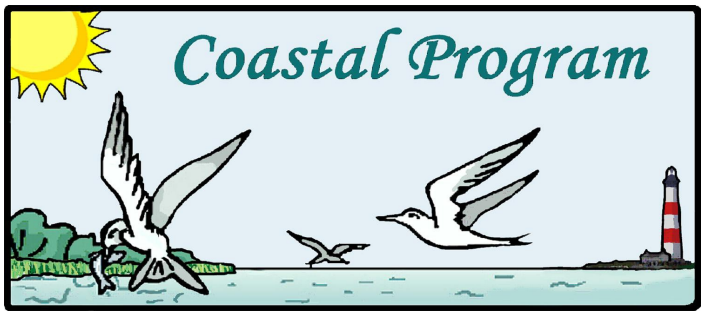
U.S. Fish and Wildlife Service Habitat Restoration Program—sun to shade coffee and riparian reforestation

Through their Coastal and Partners for Fish and Wildlife Programs, the Caribbean Ecological Services Field Office of the U.S. Fish and Wildlife Service (USFWS), has been working in close cooperation with USDA/NRCS to promote sun to shade coffee and riparian reforestation initiatives in the extended upper watershed of the Río Loco in Yauco, Puerto Rico as part of the Guánica Bay Watershed Restoration Plan.

The watershed plan identified sedimentation from the upper watershed as one of the major factors affecting coral reefs near Guánica Bay and along the southwest coast of Puerto Rico. The USFWS partnership with NRCS and Envirosurvey, Inc. (an NGO) enrolled 17 farms in the upper Río Loco watershed in 2010, and farmers have already filled applications for additional farms in 2011.

The USFWS is providing plant material and technical assistance, in conjunction with NRCS and Envirosurvey, to contact farmers and orient them on the initiative, evaluate the farm for treatments, assist the farmer with the layout for planting shade trees, and certifying the practice once tree seedlings are planted. NRCS provides technical assistance and incentives to the farmers for planting the trees and other practices. With Envirosurvey, USFWS provided 2,581 native tree seedlings in 2010, and are committed to a total of 23,577 trees through 2013 to plant over 650 acres. The reception of the practice by the farmers has been excellent. In addition to reducing soil erosion on these very steep farms, it will provide wildlife habitat that links existing Commonwealth forests in the mountains.

The *Partners for Fish & Wildlife (PFW) Program* is an incentive-based and non-regulatory conservation program aimed to restore, improve and protect fish and wildlife habitat on private lands through alliances between the U.S. Fish and Wildlife Service, others organizations, and individuals, while leaving the land in private ownership.



The *Coastal Program* provides financial and technical assistance to on-the-ground habitat restoration and protection projects through locally-based field coordinators in 22 coastal areas around the nation, and six field offices within the Southeast Region.

Photos showing the Guánica Watershed with the locations of 2010 farms, and stages of farm project development: A) Farm evaluation with partners and landowner, B) Envirosurvey tree seedling nursery, C) Delivery of trees to farmer and technical assistance to mark planting pattern, D) Certifying the tree planting, E) Photo documentation of a practice certification. Tree survival will be checked and supplemented, if needed, during planting of subsequent parcels on the farms.

.

Coffee Pulp Composting Demonstration and Utilization

One of the projects supported by the NFWF-NRCS partnership to reduce pollution ending at the Guánica Coral Reef in the Rio Loco Watershed Guánica, Puerto Rico had its major event the weekend of March 12-13. On Saturday 27 farmers and coffee processors meet in Maricao to talk about composting and farm sustainable practices. The project directed by Joaquin A. Chong, PhD (youtube.com/compostapr) in the Maricao mountainous region aims at the reduction of nutrient loading from the coffee pulp waste byproducts into water bodies. Coffee pulp accounts for more than an estimated 18,000 tons per year in Puerto Rico, been the Maricao watershed one of the major by-product producers.

On Saturday five informative talks ranging from soil-conservation, -analysis, -biology as well as cover crops, sustainable techniques, environmental marketing and of course composting of coffee pulp and its environmental, farm and sustainable benefits were discussed. Farmers were exited to hear new approaches to take care of their land, be sustainable and profitable by using on farm resources that were considered waste. The weed became a cover crop and indicator a friend telling what was wrong on the farm, the soil erosion became the indicator of lack of cover and soil organic matter. Farmers started to see things differently! On Sunday 22 participants retuned for a composting field day, previously made composts piles were shown, described and on-farm tested for stability and temperature. Participants were shown how to look at their compost and how to prepare them. New compost piles were created showing participants the ease of the procedure.

There is a tremendous interest in sustainable production; this includes techniques like compost and many others. The increasing cost of farm inputs, such as fertilizers and pesticides, and the deleterious degradation of farm land have increased farmer interest for alternative sustainable agriculture. Following farm visits will cover evaluations at on farm premises, compost odor control and tailored composting techniques.

Photos from the field visit. Top: Dr. Joaquin Chong explaining the importance of temperature in composting; Center: Dr. Chong explaining the composting process; Bottom: A look around the farm.

For questions on this or other NFWF administered community grants in Guánica, contact Erin Duggan at erin.duggan@nfwf.org.

Recently Added to the ESC

Reefs at Risk Revisited website; URL: http://www.wri.org/publication/reefs-at-risk-revisited

Burke L, Reytar K, Spalding M and Perry A. 2011. *Reefs at Risk Revisited*. World Resources Institute. Washington DC. This report provides a detailed assessment of the status and threats to the world's coral reefs, developed in collaboration with a broad partnership of more than 25 research, conservation, and educational institutions. This update of the original 1998 global analysis, *Reefs at Risk: A Map-Based Indicator of Threats to the World's Coral Reefs* includes, for the first time, an assessment of global threats to reefs from both ocean warming and acidification. It also includes a global assessment of the vulnerability of nations and territories to coral reef degradation, based on their dependence on coral reefs and capacity to adapt. ESC Folder: Reading Room (contact: Lauretta Burke, lauretta@wri.org)

Burke L and Maidens J. 2004. *Reefs at Risk in the Caribbean*. World Resources Institute. Washington DC. Many people in coastal communities throughout Latin America and the Caribbean depend on the natural resources provided by reefs for their livelihoods. Ensuring proper management of the reefs is vital for the economic and environmental health of the region, but there is a lack of quality information about the relationship between human activities and coral reef condition across the region. The Reefs at Risk in the Caribbean project was a response to this information need. The primary goal of the project was to raise awareness and improve management of coral reefs across the region through improving the knowledge base on the status of and threats to coral reefs. In collaboration with partner institutions across the region, we implemented an analysis to link human activities with reef condition. A major component of the project involved modeling (estimating) threat to coral reefs from human activities. ESC Folder: Reading Room (contact: Lauretta Burke, lauretta@wri.org)

Bryant D, Burke L, McManus J and Spaulding M. 1998. *Reefs at Risk: A Map-Based Indicator of Threats to the World's Coral Reefs,* World Resources Institute. Washington DC. This report was the first global assessment of coral reefs to map areas at risk from overfishing, coastal development, and other human activity. The study found that nearly 60 percent of the earth's coral reefs are threatened by human activity – ranging from coastal development and overfishing to inland and marine pollution – leaving much of the world's marine biodiversity at risk. In addition, the report concludes that while reefs provide billions of people and hundreds of countries with food, tourism revenue, coastal protection and new medications for increasingly drug-resistant diseases – worth about $375 billion each year – they are among the least monitored and protected natural habitats in the world. ESC Folder: Reading Room (contact: Lauretta Burke, lauretta@wri.org)

Wielgus, J., E. Cooper, R. Torres and L. Burke. 2010. *Coastal Capital: Dominican Republic. Case studies on the economic value of coastal ecosystems in the Dominican Republic*. Working Paper. Washington, DC: World Resources Institute. Available online at http://www.wri.org/coastal-capital. This report presents several economic valuation studies of the benefits that coastal ecosystems provide to the Dominican Republic. These ecosystems (a) protect white sand beaches in vital tourism areas; (b) provide habitat for commercial fisheries; (c) provide the engine for potential tourism growth in a small marine protected area; and (d) generate local tourism dollars in the southwestern part of the country. The studies highlight the contribution of coastal ecosystems to the economy and the need for greater investment in protecting coastal and marine ecosystems, including better management of marine fisheries, protection of existing reserves, and enforcement of coastal development guidelines. ESC Folder: Reading Room (contact: Lauretta Burke, lauretta@wri.org)

EPA Adds Two Puerto Rico Sites to the Superfund List

The U.S. Environmental Protection Agency (EPA) has added the Cabo Rojo Ground Water Contamination site in Cabo Rojo, Puerto Rico and the Hormigas Ground Water Plume site in Caguas to its Superfund National Priorities List (NPL) of the country's most hazardous waste sites. Sampling at the sites found chemical contamination that is impacting wells once used to supply drinking water to the local communities. Exposure to these contaminants can have serious health impacts, damage the liver and increase the risk of cancer. Residents of the Cabo Rojo and Hormigas communities currently receive drinking water from different sources that are safe to consume.

"Safe drinking water is essential to protecting public health and is a priority for EPA," said Judith Enck, EPA Regional Administrator. "With these Superfund designations, EPA will be able to address the toxic pollutants that threaten water quality in the Cabo Rojo and Hormigas communities."

The Cabo Rojo Urbano public water system has six drinking water wells that serve approximately 48,500 people. Ground water samples collected found tetrachloroethylene and trichloroethylene, solvents used in industrial processes. In an effort to identify the source of contamination, EPA conducted investigations at 68 facilities and collected soil and ground water samples from 13 facilities. EPA's investigation has not yet identified the source of ground water contamination in the drinking water wells and further investigations will be conducted. The contamination detected in the Cabo Rojo wells that are still in operation is below levels of concern.

The former Hormigas public water system has two wells, Eufracia and Hormigas, which served a population of over 5,000 people until they were taken out of service. In 2006, tetrachloroethylene was detected by the Puerto Rico Aqueduct and Sewer Authority in the Eufracia well above the level considered acceptable under federal drinking water standards. In response, PRASA closed the Hormigas water system and discontinued use of both wells in 2009. Trichloroethylene and cis-1, 2-dichloroethylene, additional chemical contaminants, were also detected in the Eufracia well. EPA plans to conduct further investigations to identify the source of contamination in the wells.

Contact Information: Elias Rodriguez, 732-672-5520, rodriguez.elias@epa.gov or Brenda Reyes, 787-977-5869, reyes.brenda@epa.gov

For more information, visit: http://www.epa.gov/superfund/sites/npl/current.htm

Submit updates to:

Patricia Bradley
bradley.patricia@epa.gov
305-809-4690

Landscape view in the Guánica Bay Watershed.