

Year 2008 Projects

Project Name	Activity	Project Description	Habitat Type	Acreage	Linear Miles
Community-Based Red Mangroves Habitat Restoration Project	Reestablishment	<p>The planting phase of the project began on January, 2008, and took 120 days to complete its first phase. The decision to plant red mangroves, one native tree in Puerto Rico, was based upon the fact that it provides the greatest benefits, ecologically speaking, in areas where the ocean and land interface. It is also the species that offers the most protection against erosion caused by the action of waves. First, the mangrove propagules that were planted were collected from the red mangrove trees that can still be found in the Lagoon and those of other nearby areas in the Estuary. This process began in June since it is the month when propagule production and availability is at its highest. Planting starting in June should also allow sufficient time for root development and thus increase propagule stability by mid-September -- the peak of the six-month hurricane season for Puerto Rico (June 1 – June 30), the period during which most hurricanes have traditionally struck the Island. The propagules were planted in two (2) rows, along 3,608 feet (1,100 m) parallel to the Lagoon's northern and eastern shorelines. Propagules were planted at a distance of six feet (1.8 m) from each other, or one per 36 square feet (3.2 m²). This resulted in planting approximately 400 propagules. An additional third row will be planted in areas that are shallow enough (i.e., less than 1.5 feet deep) to allow for future propagule establishment and development. Propagules will be planted following an alternate pattern that will maximize tree exposure to sunlight by diminishing the projection of the trees' shadows upon each other. Riley's Encased Replanting Technique (ERT) was used during this restoration project (Riley, R. W. Jr., and C. P. Salgado-Kent, 1999). The method consists of planting the propagule inside a pipe for its protection from adverse conditions during its early development such as strong winds and water currents, entanglement with floating debris and predation by crabs (<i>Grapsus</i> sp.). A two-foot (61 cm) long by one and a half inch wide (3.8 cm) pipe will be used for each propagule. Approximately one-third of the pipes will be driven into the Lagoon's shore. Four to seven inches (9.5 to 17 cm) of the other end of the pipe will be intentionally left above the water line, while the rest of it will remain submerged. The pipe is then filled with a mixture of topsoil, peat moss, and sediment and sand from the bottom of the Lagoon, up to the water line. Between one-third to one-fourth of the propagule's length were driven into the sediment within the pipe, while the rest becomes encased or surrounded by the pipe for protection. An eight inch (20 cm) long piece of PVC pipe with a rounded end will be added on top of the propagules and secured with a plastic cable tie to the PVC pipes stems already in place in the Lagoon. This will eliminate the possibility that propagule stems will be cut as they are moved by the wind or the current against the inner edge of the PVC pipes. Before driving the pipes into the Lagoon, these were be cut longitudinally through their entire length, in order to allow for the future growth of the propagules. As the plant girth increases beyond the diameter of the pipe, the pipe will open and expand, allowing the trunk and the root system to enlarge. Once the aerial roots extend outside the pipe into the Lagoon, the trees will be self-sufficient, ending their dependence on the encasement for their support and survival. Nevertheless, PVC pipes will be removed from those propagules that become readily established and for which it is determined that there is no longer a need for the pipes, most likely those planted nearest to the shoreline. Monitoring and Evaluation The project will be considered successful if 80% or more of the propagules survive and develop after the first year of planting. To monitor the project, all propagules have been identified for further study, for which data about tree height and stem width will be collected by volunteers every six months, starting three months after the planting. Tree density per square meter will be another area that will be followed for study. Propagules or trees that die after the first six months of planting will be replaced by new ones to be planted by volunteers and the SJBE Program staff. These plantings will be identified and included in the on-going monitoring. Maintenance activities will include regular visits for the removal of debris, and uprooting and replacement of sick and dead mangrove plants. During each visit measurements of the height, circumferences, and diameter of each trees will also be performed as part of the monitoring program. Descriptive observations of the general conditions of the plants will be recorded. Monitoring is expected to continue after the formal termination of the project. This monitoring activity will be carried out by volunteers, primarily science students and as part of their regular science education program, in consultation with the SJBE Program staff. Outreach The planting site is a living laboratory for several schools of the Condado and Santurce area. Brochures, flyers, caps and back packs were developed for the project. The business community participated in the planting project as well as hotel employees and residents. Field Technician NOAA provided funds to contract a Field Technician that is working exclusively on the planting, tagging and monitoring of the red mangrove propagules along the shore.</p>	Mangrove	1	0.5
Community-Based Wetland Restoration Project at Cucharillas	Enhancement	<p>The Cucharillas Marsh is a special bioregion located in the municipalities of Cataño and Guaynabo. Specifically, the area of study and conservation covered by this activity, the Juana Matos community, is an environmental justice neighborhood living in poverty since its foundation. The Juana Matos community is located within the Cucharillas Marsh, an area that covers approximately 1,236 acres of mostly herbaceous wetlands, but also includes mangroves and open water areas. The Cataño Municipality granted the Corredor del Yaguazo Community Group the management of 150 acres of wetland located in and near the Juana Matos community and has approved municipal legislation to protect several species in coordination with the</p>	Tidal Wetland	1	0.5

		<p>Yaguazo Group. During the last years, we have been able to join the wetland restoration movement initiated by the Corredor del Yaguazo at the Juana Matos community. Other members of this alliance are the Department of Natural and Environmental Resources, the not-for-profit environmental organization GWorks, and the Cataño Municipality. The Corredor del Yaguazo is a clear testimony of how through the environmental justice cause an extremely poor community can get organized and empowered to help restore the natural heritage surrounding their homes. The environmental cause in this context has proven to be a success at improving the daily lives of hundred of traditionally under-represented and marginalized families and citizens. During the period covered by this report, the Yaguazo Community Group, in alliance with the volunteers of the San Juan Bay Estuary Partnership Estuary Program and several other partners, has restored two (2) acres of wetland and is currently planting Pterocarpus in the Juana Matos area. Furthermore, the group, following the technical advice of our organization, is also enhancing a one (1) acre area at the Esperanza Peninsula. The Peninsula is part of the Cucharillas Marsh system and is located in the western side of the San Juan Bay Estuary Partnership. It is a key recreative coastal axis in the urban area of the Estuary. This project was performed and led by the community in order to stabilize coastal erosion in the area and increase wildlife area in the Bay. In only one day, June 6, 2008, the partners of the activity planted 200 red mangrove seedlings and approx. 500 native coastal trees. The Corredor del Yaguazo Community Group is monitoring the planting areas.</p>			
San Juan Bay Estuary Partnership Estuary Cleanup Campaign and Bulky Waste Removal	Enhancement	<p>Due to historical, geographical and economical reasons, residents and business in many of the communities adjacent to the estuary system have disposed of large amounts of waste in and around the Estuary's waterways through the years. Entanglement and digestion of aquatic debris is one of the leading causes of marine animal mortality. The San Juan Bay Estuary Partnership Estuary Program has selected a number of critical sites within the Estuary system that are affected by aquatic debris, including the Esperanza Island and the Martín Peña Channel. One of the strategies is to organize aquatic debris cleanup events. During this period four cleanups were organized by the San Juan Bay Estuary Partnership Estuary Program in the Esperanza Island, Martín Peña Channel, Condado Lagoon and the San José Lagoon. Several thousand of bulky waste and aquatic debris were collected and properly disposed by the Partnership's volunteers and municipalities. Also three of our partners, the Carolina Municipality, the San Juan Municipality and the Bayamon Municipality, began projects to collect bulky waste. The Carolina Municipality is collecting this kind of debris on all homes; the Bayamon Municipality established a bulky waste drop-off, and the San Juan Municipality began a pilot project to collect bulky waste from selected communities. The San Juan Municipality cleans the borders of bodies of water such as the Martín Peña Channel very frequently. Another important partner of our organization is the International Coastal Cleanup Campaign, coordinated locally by Scuba Dogs. On 2007, this campaign collected 258,360 items from the coasts of Puerto Rico, including the following specific materials: 24,668 plastic bags 45,547 cigarettes and cigarette filters 2,535 building materials 1,454 car/car parts 1,292 diapers 2,154 plastic sheeting/tarps At least 10% of these materials were collected from the bodies of water related to the San Juan Bay Estuary Partnership Estuary. Our volunteers and other partners, such as the Department of Natural and Environmental Resources and the Puerto Rico Parks Services also collaborated closely with the campaign.</p>	Other	2	3
Verdor 100 x 35 Planting Campaign	Reestablishment	<p>The Verdor 100 x 35 Campaign is a massive reforestation campaign led by one of our key partners, the Department of Natural and Environmental Resources. The agency, in coordination with the watershed municipalities of the San Juan Bay Estuary Partnership Estuary, our organization and other not-for-profit organizations, develops strategically planting events. These events are developed in areas such as fresh water wetlands, coastal areas, and urban forests. Recently, the Governor of Puerto Rico, Hon. Aníbal Acevedo Vilá, presented the creation of the Doña Inés Mendoza Arboretum, a 2.5 acres new forest, where several local species have been planted, such as a rare species named Palo de Ramón (Banara vanderbitti) and Ceiba trees (Ceiba pentandra). Other species recommended in our CCMP were planted, such as Maga wood (Thespesia grandiflora). From October 2007 to May 2008, a total of 143,518 trees were planted within the watershed.</p>	Other	200	0
Total				204	4