

EPIC Continues Restoration Project

Focus on restoration of native forest, increasing biodiversity and environmental education

by Kippy Gilders

Earlier this summer, Environmental Protection in the Caribbean (EPIC) Foundation began a project to plant native trees at three different locations around St. Maarten (Cay Bay, Sentry Hill and Little Key). Before Hurricane Irma, assessments were conducted to better understand what native plants need to be introduced at each site to increase biodiversity and steps were made to source the plants. The passage of Hurricane Irma has delayed restoration efforts. However, EPIC is now determined to resume the project and plant native trees that are needed now more than ever!

Although the main action of the project is to introduce native trees, the focus is on increasing biodiversity and environmental education. The restoration sites vary extensively from each other, allowing a significant increase in biodiversity after restoration. Habitat types of these areas are: coastal mangrove wetland found in Little Key, montane dry forest found on Sentry Hill and coastal terrestrial scrub found at Cay Bay.

Coastal mangrove wetlands in St. Maarten have suffered a drastic reduction in recent decades due to commercial development and dredging. This has resulted in the loss of important spawning and nursery habitat for several reef species such as Schoolmasters, Great Barracuda, Gray Snapper and Four-eye Butterfly and also for pelagic species such as parrotfish, silversides, wrasses, anchovies and herrings (Naturefoundationsxm.org, 2017). EPIC aims to alleviate this by restoring mangrove stands in Little Key, increasing mangrove dependent species and subsequently increasing biodiversity in the marine environment. To guarantee high plant survival, test mangroves have been planted following the encased planting methodology by Robert W. Riley Jr. (1995). This method, which uses PVC pipes to protect young red mangrove propagules, is proven to prevent seedling mortality due to wave action and other environmental hazards. However, EPIC was surprised to find that 5 of 12 test encasements had not only survived Hurricane Irma but had also produced leaves.



Before Hurricane Irma - Mangrove encasements planted on Little Key (August 19th, 2017)

Photo by: © Kippy Gilders



After Hurricane Irma - Remaining mangrove encasements planted on Little Key (September 21, 2017)

Photo by: © Kippy Gilders





Terrestrial forest and scrub areas in St. Maarten present low diversity. The plant composition in these areas is dominated by a few invasive and non-native species that rose to dominance after cleared agricultural land was abandoned over 50 years ago. In order to increase biodiversity, EPIC is currently working on establishing a secondary forest with specific native species in the two terrestrial sites. The increase of species in these areas will provide a more complex and natural habitat for species dependent upon shade, leaf litter, tree bark and crevices. The diversity of trees will also provide more varied food source for birds, bats, spiders and other insects.

EPIC advocates for conservation zoning and long-term management plans for the restored sites. Another key point of this project is the

involvement of stakeholders to catalyze legislative action and create citizen science opportunities. Towards this goal, the project has a focus on environmental education and will work with schools and community groups to promote the value of environmental protection, foster connections with nature, and encourage conservation actions. EPIC invites other organizations to visit restoration sites and share best practices through this unique opportunity.

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Top Left: *Damages to the EPIC Office from Hurricane Irma.*

Bottom Left: *Dedicated volunteers help clear broken branches and hurricane debris from the restoration site at Sentry Hill.*

Right: *Technicians working to clear the site at Sentry Hill*

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