

Robert Mayer Universidad de Puerto Rico, Aguadilla

Ecological Restoration of Sand Dunes and Mangroves in Puerto Rico : Increasing Coastal Resilience







Robert J. Mayer Ph.D., CERP

Universidad de Puerto Rico en Aguadilla Vida Marina: Center for Conservation and Ecological Restoration

robert.mayer@upr.edu

(787) 890-2681 x 2295













Vida Marina is the Center of Conservation and Ecological Restoration of the University of Puerto Rico



Operated by undergraduate research students and 8 full time employees that do multiple tasks related to our ecological restoration projects.



















Sand accretion, as a result of Hurricane Fiona, on biomimicry matrices on the north-western coast of Puerto Rico.

Robert J. Mayer Ph.D., CERP; Bárbara K. Antunes Borges Ph.D. Vida Marina: Center for Conservation and Ecological Restoration University of Puerto Rico at Aguadilla





Figure 1. Biomimicry matrix on a breach on the primary dune in Secret Spot Beach, Isabela. The image on the left was taken on February 25, 2021 and the one on the right was taken on September 28, 2022. Note the large volume of sand accumulated on the mimicry. This was caused by the storm surge caused by hurricane Fiona on September 18, 2022.

Biomimicry matrices are built using boards from dismantled wooden shipping pallets driven on holes made using a gasoperated auger. The boards are installed in areas where there is significant wind-transport of sand.





We are spreading the word about the importance of dune restoration with our environmental education component.







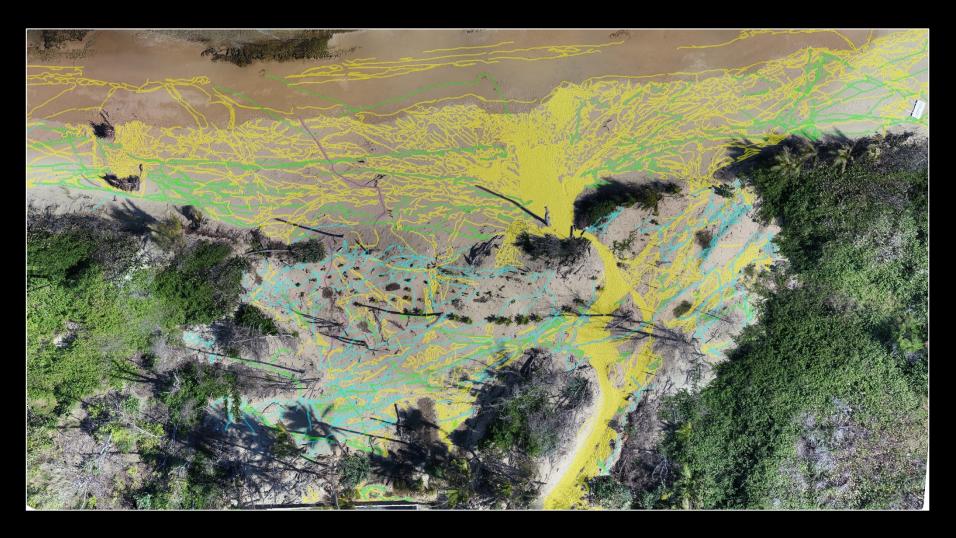








Mid Project March 15, 2019



Post extreme weather event February 27, 2020



Date of installation = July 2019

September 19, 2020



7 months later



















PUERTO RICO