Ecological Restoration Zones Within the Monkey River Area (Belize) Using Community Grown Nurseries to Produce Plants for Riparian Strips

Koonce, Anna (School: Saint Joseph's Academy)

Due to excessive cultivation and timber extraction, the Monkey River has become polluted from runoff fertilizer and pesticide flowing from nearby farms. The Belize Community is experiencing major land loss in both their city and the surrounding rainforest because of this pollution. Planting riparian strips in the runoff area may preserve land from erosion by establishing a well-developed root system. The purpose of this experiment is to determine the most effective riparian combination then design a plan using that combination for the Belize community so that storm water is remediated, runoff and pollution are offsite, and the riparian strip creates forage areas, bird nesting habitats, and marine breeding grounds. Three combinations of riparian strip were tested by simulating runoff in a greenhouse environment with drip irrigation. Results of elements in leaf tissues, effluent volume, and effluent element concentrations showed that the riparian strip with a combination of grass and trees was the most successful. If the detailed plan provided by this experiment for growing and planting a riparian strip near Monkey River is instated, then it can be concluded that the riparian strip will prevent erosion.

Awards Won:

Third Award of $1,000