

Fecal Coliforms, *E. Coli* and PCR Based Microbial Source Tracking in Streams of Puerto Rico

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Abstract. Fecal pollution was assessed in a series of locations along streams and rivers in Puerto Rico, among which are Río Culebrinas, Río Añasco, Río Yagüez, Quebrada Sábalo, Caño Boquilla, Río Guanajibo in western Puerto Rico. Turbidity, dissolved oxygen, temperature, pH, specific conductivity and salinity measurements were collected in the field. Water samples were collected using four replicates, two of which were used for bacteriology and for water filtration for later analysis of DNA markers for MST. Microbial contamination was determined using IDEXX to enumerate the level of fecal bacteria (*E. coli* and Coliform) in the rivers and Microbial Source Tracking was used to identify human, cattle and pig source of the fecal pollution at each location. There were high levels of fecal bacteria (> 400 MPN/100 ml) in most of the river sites. The highest *E. coli* counts were at Río Matilde and Costa Azul. MST indicated that eight out of 32 sites were contained human fecal pollution but pig fecal bacteria were not detected in any of the rivers. We are continuing to monitor the water quality along these rivers in Puerto Rico.