





# Research Program

- ▶ Water Quality Index for Surface Streams
  - Consider most important pollution parameters
  - “Weighted Mean Index” ,
  - Series of surveys to experts.
  - Surface water quality modeling
  - GIS for spatial distribution of WQI
  - BMP development
  - Will allow monitoring of WQ changes with time .

$$WQI = \left( 1 - N + \sum_{i=1}^n S_i^{-2.5} \right)^{-0.4}$$





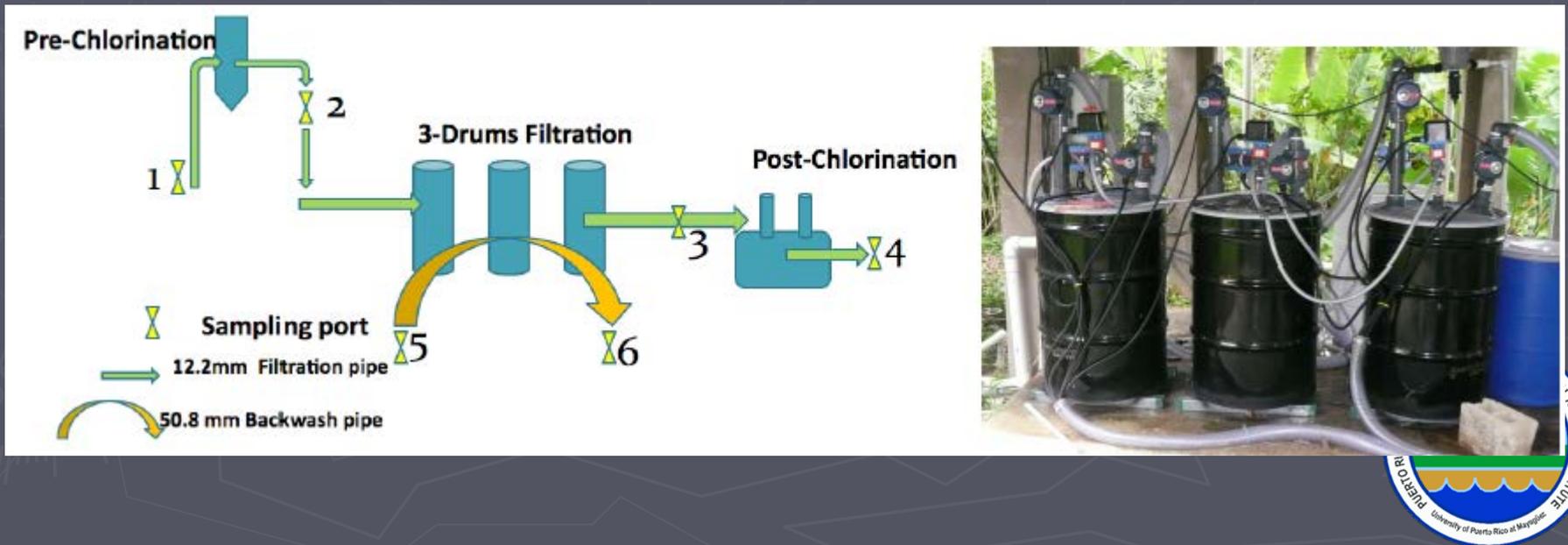
# Research Program

- ▶ Use of Saltflat Species as Vegetative Buffers in Coastal Zone (NRCS)
- ▶ Developing Hydrologic-Hydraulic Studies Guidelines for Puerto Rico (DNER)
- ▶ Use of Lateral Weirs for Uniform Distribution of Overland Flow for Irrigation Purposes (DNER)



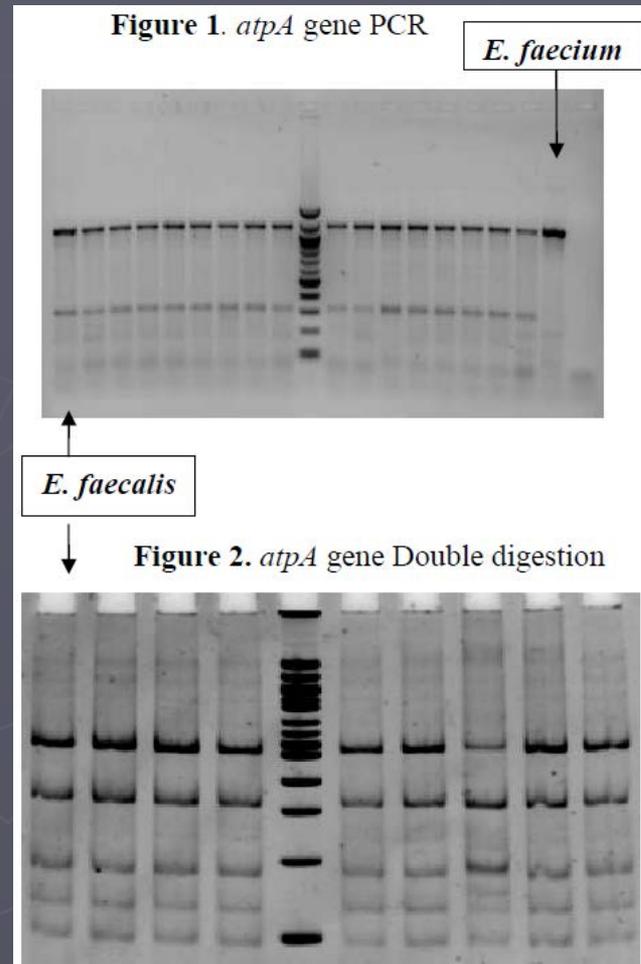
# 104B Research Program

- Field Demonstration of Removal of MS2 Bacteriophage and *Bacillus subtilis* with a Solar-Powered Engineered Experimental Drum Filtration and Disinfection (SEED) Unit



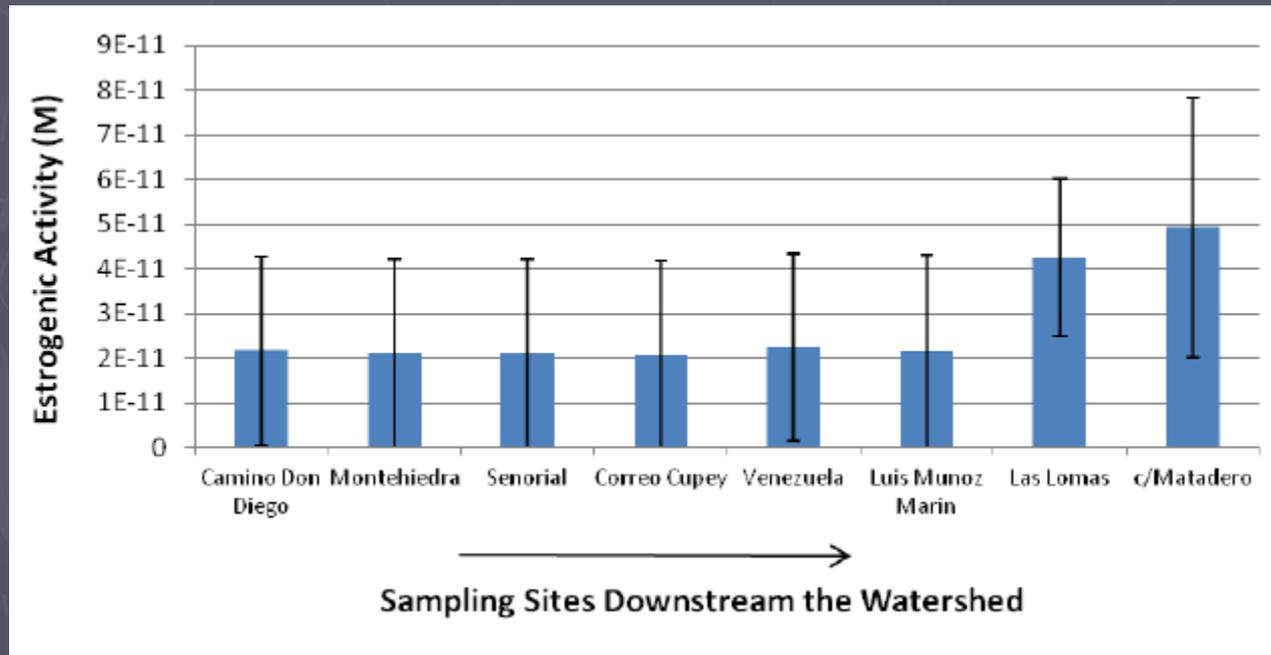
# 104B Research Program

- ▶ Microbial source tracking: The hunt for *E. faecalis* the dominant Enterococci among non-pigmented environmental enterococci in the water systems of Puerto Rico.



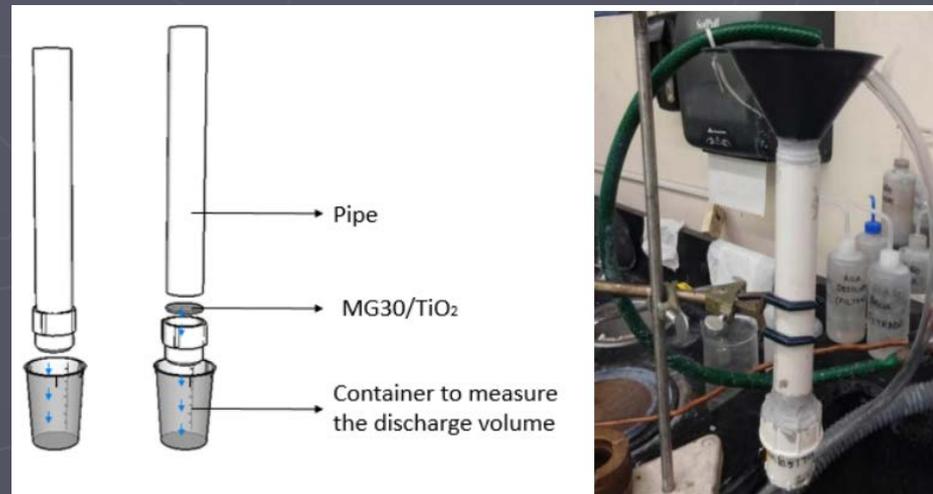
# 104B Research Program

- ▶ An Integrated Approach for the Detection of Estrogenic Activity in a Tropical Urban Watershed



# 104B Research Program

- ▶ Development and evaluation of a hybrid multimedia-filter prototype (HMP) for the degradation of natural organic matter (NOM) and bacteriological control from raw waters.



# 104B Research Program

- ▶ Mapping Field-Scale Soil Moisture Using Ground-Based L-Band Passive Microwave Observations in Western Puerto Rico



# Contact

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