

**COMPREHENSIVE INTEGRATED MANAGEMENT PLAN  
FOR THE MAYAGÜEZ BAY WATERSHED  
RESEARCH PROGRAM**

**For the month ending:** 10/30/2003 **Date of the report:** 11/2/2003 **Project #** CIMP- 002

**Project Title:** Nutrient discharges from Mayagüez Bay Watershed

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**Percentage of Work completed in this month (%)**. 8

**Accumulative Percentage of work completed (%)**. 16

**Summary of Progress on Project in this month by task as listed in the work schedule (attach additional sheets, if necessary):**

1. We continue to perform bi-weekly sampling at the five stations of the sub-watersheds Quebrada Cercada, Cerro Gordo, Quebrada Cerrote, Quebrada Chamorro, and Guaba within the RGA watershed. To date we have completed sampling for the following dates for the year 2003: 20 January, 4 February, 18 February, 4 March, 18 March, 2 April, 22 April, 29 April, 12 May, 28 May, 10 June, 24 June, 8 July, 18 August, 2 September, 16 September, 30 September. Fourteen events were sampled during 2002 and nineteen events have been sampled during 2003.
2. We have performed two transects within Quebrada Cercada to evaluate the source of bacterial coliforms. In both instances bacterial coliform counts have increased upstream from the subwatershed outlet.
3. We have made preliminary evaluation of bacterial species diversity within the study sites. Of sixty-one isolations, six genera and eleven species were identified which were: *Escherichia* (26%), *Enterobacter* (26%), *Klebsiella* (22%), *Raoutella* (11%), *Citrobacter* (7%) y *Pectobacterium* (7%); and two genera and eight species of *Enterococcus* (90%) y *Lactococcus*. (10%), with *E. faecalis* (41%), of mayor incidence.
4. *In situ* field monitoring includes pH, electrical conductivity, and water temperature. The YSI temperature, electrical conductivity, pH probe is calibrated in the laboratory prior to measurement in the field. Laboratory measurements of pH, and electrical conductivity are also performed.

5. Through 2 September 2003, we have completed measurements for total P and dissolved P, suspended sediments, fecal coliform counts, *E. coli* counts, *Enterococcus* spp. counts, suspended sediments and chlorophyll a. We have completed measurements for total kjeldahl N in water samples and are corroborating the results.
6. Measurements which are in progress are: dissolved N ( $\text{NH}_4^+\text{-N}$  and  $\text{NO}_3^-\text{-N}$ ) for samples collected after August 2003.
7. We have installed an ISCO 3000 Automatic Storm Event Sampler at Cercada subwatershed in Añasco. On 15 October 2003 a second sampler was installed in Cerro Gordo subwatershed. To date we have collected over fifteen storm events, and have collected information on total hydrologic discharge (during the storm event) and suspended sediment concentrations. Total N and total P analysis has been performed.

**Status (Please check were appropriate)**

**Project Status (x)**

  x   **On Schedule**        **Delayed**        **Suspended**        **Cancelled**        **Completed**