

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

For the month ending: 3/31/2004 **Date of the report:** 4/14/2004 **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 (%). 48

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

1. We have completed bi-weekly grab 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, 14 October, 28 October, 11 November, 2 December, and 16 December. A total of 36 sampling events have been performed over a 582 day period. In addition two transects, involving five sampling points each, to assess sources of bacteria to streamwater column have been performed.
2. We are in the process of completing quality assurance of the data associated with bacteria enumeration.
3. We completed analyses for dissolved $\text{NH}_4^+\text{-N}$ and $\text{NO}_3^-\text{-N}$ for the dates of 18 February to 18 March 2003 and 16 September and 16 December 2004. Once all of the analyses for DP, TP, and TKN have been completed, which correspond to dates from 16 December 2003 to 16 December 2003 (7 sampling events), we will initiate correlation analysis and statistical analyses of the data.
4. Two ISCO 3000 Automatic Storm Event Samplers have been installed at Miraflores (formerly known as Cercada) and Cerro Gordo subwatersheds in Añasco. Storm event sampling has been performed from August to December 2003. Seventeen storm event were collected in Miraflores and 11 eventos were collected in Cerro Gordo from 16 september 2003 to 14 December 2003. The

- events lasted from 30 minutes to a maximum of two hours. Sediment analysis has been completed for all events. TP and TKN analysis has been performed for 8 events in Miraflores and 4 events in Cerro Gordo.
5. Trend analysis indicates statistically significant relationships between hydrologic discharge (ft³/event) and sediment, TKN, and TP concentrations (mg/L) and loads (kg). Sediments and TKN were positively correlated to hydrologic discharge whereas TP concentrations were negatively correlated with hydrologic discharge.
 6. The results suggest that we will be able to affirmatively relate sediment and nutrient (TKN and TP) loads with hydrologic discharge within the subwatersheds.

Status (Please check where appropriate)

Project Status (x)

On Schedule Delayed Suspended Cancelled Completed