



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2002PR5B

**Title:** Well and Interstitial Water Crop Protection Chemicals Study on the Salinas Fan

**Project Type:** Research

**Focus Categories:** Water Quality, Solute Transport, Toxic Substances

**Keywords:** Crop Protection, Interstitial water

**Start Date:** 03/01/2002

**End Date:** 02/28/2003

**Federal Funds:** \$20,000

**Non-Federal Matching Funds:** \$44,725

**Congressional District:** N/A

**Principal Investigator:**

None

### Abstract

This project examines the groundwater and interstitial water quality, toxic substances and nonpoint contamination in the Jobos Basin Estuarine Reserve. The Jobos Bay is located between the Salinas and Guayama municipalities in the south coast of Puerto Rico and comprises more than 2,500 acres, including a forest and a mangrove. The Jobos Estuaries Ecosystem has been severely stressed since the late 80's by land and water channels alterations which have changed the water flow patterns of the zone. One of the key issues that needs to be addressed in Puerto Rico and worldwide is the pesticide and phthalate esters movement in soil and groundwater and their effects over sensitive environmental zones, including flora, fish and wildlife.

Non-managed application of pesticides and other compounds that reach non target sites may result in leaving residues where crops will later be planted or where they may reach surface and ground water resources. The expected benefits of the research proposed will be the development and advancement of new scientific information related to pesticide and organic toxic residues in the groundwater and interstitial water in the Salinas and Guayama municipalities. The project's objective is to determine the presence, levels and seasonal variability of agrochemicals in groundwater in the zone near the Jobos Basin. The magnitude of adsorption of the detected pesticides on the main agricultural soils and wetland soils found in the zone. This will serve as an index for selection of more adequate soils and agricultural management practices to avoid pesticide contamination and further disruption of the Jobos Estuaries Ecosystem. This research will help address pesticide groundwater contamination in Puerto Rico and pinpoint management practices, to save and protect Jobos Basin.