WATER RESOURCES RESEARCH INSTITUTE

UNIVERSITY OF THE DISTRICT OF COLUMBIA

Since its creation in 1973, the Institute has funded valuable projects that promote the collaboration of faculty, students and the community of the Washington Metropolitan Area in finding solutions to the problems related to water issues in the District. Some of the most recent projects include:

Student displays portable solar energy unit

The Development of MEMS-based Integrated Wireless Remote Biosensors
This project proposed the design and implementation of an integrated wireless, low-power embedded biosensor monitoring system for the acquisition and transmission of biological functions from aquatic animals. These signals can be used to measure the stress induced in aquatic animals due to water pollution. The illustrated solar panel was used to provide electrical energy for field research at the riverside when testing the bio-sensors.

Identification of PCB and Chlordane Sources in the Anacostia River Watershed
The freshwater tidal Anacostia River of the District of Columbia is one of three Areas of Concern in the Chesapeake Bay with a fishing advisory for PCBs and chlordane. In 2004 this biomonitoring project used a two-week Asiatic clam (*Corbicula fluminea*) translocation protocol to find the clean upstream reaches of the most highly contaminated first-order tributaries. In 2004-2005 this research project involved four UDC undergraduate students and the results were presented at three scientific conferences. This pioneering study of the sources of major pollutants to the Anacostia River can lead to source reduction and eventual restoration of the River.

Student performs lab work

Student Intern taking water samples from lysimeters

Effect of Pelletized Poultry Manure and Vegetable Production on Vadose Zone Water Quality
The Chesapeake Bay Agreement was initiated in part because of a pfeisteria scare induced by the Bay's excess phosphorus level from over application of chemical fertilizer and poultry manure in crop production areas. Poultry manure produced from the Delaware, Maryland, and Virginia (DELMARVA) poultry industries is applied on farmland along with chemical fertilizer for crop production. A significant amount of unused manure is stored for future usage or remains to be disposed of. Perdue AgriRecycle, Inc. has cleaned, sterilized, and pelletized poultry manure for easy handling and movement in crop and vegetable production. Residents of Washington, DC grow vegetable in their backyard and could potentially use this material as a soil amendment. This experiment is designed to determine the effectiveness of pelletized poultry manure as a soil amendment in vegetable production and its potential effect on DC water resources.

Student and Faculty assessing erosion in a DC Park

4200 Connecticut Ave NW
Building 52 – Room 416 G
Washington DC, 20008
(202) 274-7139
whare@udc.edu
wrri_udc@yahoo.com

WRRI Staff volunteer with a Casey Trees project at UDC

http://www.udc.edu/dc_water_resources/about_us.htm