



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: DC3801

Title: Sources of Bioavailable Toxic Pollutants in the Anacostia

Focus Categories: Toxic Substances, None

Keywords: sediment, urban, biomonitoring, molluscs, PCB's

Start Date: 03/01/2001

End Date: 02/28/2002

Federal Funds: \$17,369

Non-Federal Matching Funds: \$31,493

Congressional District: DC

Principal Investigator:

Harriette L. Phelps

Professor, University of the District of Columbia

Abstract

The 10 km Anacostia River estuary continues to be a seriously impacted body of water that is the major river of the District. Recently it has attracted the attention of the Sierra Club and a Superfund site was found in the lower third of the estuary. This has led to the establishment of the Anacostia Watershed Toxics Alliance which was initially started through EPA (Shepp 1999). A number of hydrological and chemical studies are taking place. However, there is very little being done on the bioavailability of the pollutants being found.

Recent WRRC studies looked at the growth, mortality and concentration of toxic chemicals in Asiatic clams (*Corbicula fluminea*) that were placed in cages at two locations. The water was nontoxic but the clams had growth reduction and accumulation of pollutants in tissues. Clams are considered an ideal organism for studying the bioavailability of pollutants. The first study found bioavailable polychlorinated biphenyls (PCBs) entering from the Potomac, and also from the Northwest Branch of the Anacostia, at Bladensburg. This result was unexpected as the lower Anacostia Superfund site didn't appear to be the source of toxicity or many bioavailable PCB's. This research needs to be expanded to other locations to find where the bioavailable toxics are entering the Anacostia. The research objective of this continuation study will be to locate the most important sources to the Anacostia of water-carried toxic pollutants such as PCBs, Pesticides (including chlordane), polycyclic aromatic hydrocarbons (PAHs) and metals.