



## USDA-CSREES 2006 National Water Quality Conference

### [Drinking Water Assessment at Underserved Communities in Delmarva Peninsula](#)

For the last three years, the Mid-Atlantic Water Quality Program has been conducting well water assessment at traditionally underserved communities in Virginia, Maryland, and Delaware. This program was spearheaded by the regional 1890 Land Grant Institutions in collaboration with the 1862 Land Grant institutions. Initially the study was designed to assess drinking water quality in each state; but later it was decided to concentrate on the Delmarva Peninsula, which transects all three states. Two counties from Virginia (Accomack and Northampton), four counties from Maryland (Somerset, Worcester, Wicomico, and, Dorchester) and all three counties from Delaware (New Castle, Kent, and Sussex) were selected based on the demographic distribution of minorities. The objectives of this study were to (i) assess the quality of drinking water at underserved farms and communities in the Delmarva Peninsula and (ii) develop and utilize a survey instrument designed to provide information on well history and demographics. To meet these objectives, household water samples were collected from underserved residents of the Delmarva counties identified above. These samples were assayed for selected water quality indicators (metals, nutrients, oxy-anions, fecal coliforms and *E. coli*). A survey instrument was also developed and completed by the residents at the time of sampling. Responses from the survey instrument along with laboratory data were used to gauge overall drinking water quality. Results indicated that drinking water wells throughout the Delmarva Peninsula have experienced saltwater intrusion from the surrounding bays and/or ocean. Isolated incidents of high total coliforms bacteria were detected in some water samples albeit the *E. coli* counts were below EPA limits. Some samples indicated elevated nitrate levels, which were not considered detrimental to current residents with affected wells. In some cases, well owners reported high turbidity, color, and objectionable odors, which were important water quality concerns.

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