

Session Abstracts

National Environmental Health Association (NEHA)
71st Annual Educational Conference & Exhibition

Water Pollution

Wednesday, June 20

8:30 – 9:20am

Emerging Contaminants of Interest to the Department of Defense: Issues and Initiatives

Sherri Hutchens, Supervisory Physical Scientist, U.S. Army Dept. of Defense, MD

Emerging Contaminants (ECs) can affect human health and safety, readiness and mission accomplishment, acquisition, operation and maintenance of DoD assets, and the DoD cleanup program. The Office of the Secretary of Defense has established an EC Directorate to address emerging contaminant issues. The EC Directorate has developed, in conjunction with the Military Services, EC “watch” and “action” lists. This presentation will provide examples of how ECs can affect each of the above DoD functional areas and provide the latest updates on issues and actions related to these ECs. The speaker will summarize EC issues and ongoing activities of the Emerging Contaminants Directorate.

9:30 – 10:20am

Residential Water Quality: Practical Steps in Measuring Common Contaminants in a Private Municipal Supply Toward the Implementation of Local Regulations

Peter N. Tabbot, MPH, Health Officer, West Caldwell Health Dept., NJ

In response to several well contaminations in Randolph Township, New Jersey, the local Health Department endeavored to develop an ordinance that would protect the health of private well users. Samplings of 1,488 private and non-public wells were used to provide the basis for the ordinance proposal. Questionnaires were mailed to homeowners and samples were collected to evaluate for the presence of volatile organics, coliform bacteria, and other inorganic water quality criteria. Raw data and multivariate analyses were studied for patterns in contamination. Several volatile organics, coliform bacteria and other inorganic products were shown to be present in the residential water supplies, and some associations were observed between the presence of higher contaminant levels and proximity to stationary sources of contamination. Through effective collaboration between the health department, governing body, residents, a state granting agency and a certified laboratory, good baseline information on Randolph’s private well water quality was derived.

10:30 – 11:20am

Swimming-Associated Illness and Rapid Measures of Water Quality at a Gulf Beach

Timothy J. Wade, PhD, MPH, Epidemiologist, EPA, NC

Studies at Great Lakes beaches have provided evidence that faster ways of measuring the fecal indicator bacteria (FIB) *Enterococcus* using quantitative polymerase chain reaction (qPCR) are predictive of swimming-associated illness. In 2005, we conducted an epidemiology study to evaluate these methods at a marine beach located in Biloxi, Mississippi.

We enrolled beachgoers from June through August. Ten to twelve days after the beach visit, we telephoned participants to determine illness occurrence. Water samples were tested for *Enterococcus* and *Bacteroides* using qPCR. A total of 1,501 subjects were enrolled before the study was stopped short due to the effects of Hurricane Katrina.

Swimmers reported approximately 1.3 times more gastrointestinal illness compared to non-swimmers. The risk of GI illness increased as exposure to *Enterococcus* and *Bacteroides* qPCR and cell equivalents (CE) increased. Although these results require confirmation at other marine beaches, the results are consistent with those from freshwater beaches.